



Dairy Farm Monitor Project

Victoria | Annual Report
2017-18

Economic Development,
Jobs, Transport
and Resources



Acknowledgements

Participant farmers are gratefully acknowledged for their cooperation, patience and goodwill to willingly supply their farm information, for either the first time or twelfth consecutive year.

The diligent work of Agriculture Victoria, Dairy Services staff who gathered the final performance data deserve particular thanks, especially Olive Montecillo, Michele Jolliffe, David Shambrook, and Sarah Clack, who continued to be actively involved in the report through to its publication. Thanks to Dr Christie Ho and Dr Claire Lewis for providing a thorough review of the report.

The project was also made possible this year through the contributions of Dan Armstrong, Tom Farran, Cameron Smith and Paul Groves who collected farm data, in addition to data collected by Agriculture Victoria staff, and provided feedback and validation to ensure its accuracy.

Thank you to Brett Mitchard from Agriculture Victoria for creating the map used in this publication.

This report has been produced in conjunction with Dairy Australia.

Further information regarding the Dairy Farm Monitor Project may be obtained from:

Claire Waterman

Agriculture Victoria
PO Box 3100, Bendigo DC, Victoria 3400
Telephone: 03 5430 4697
claire.waterman@ecodev.vic.gov.au

Natalie Nelson

Agriculture Victoria
1301 Hazeldean Road
Ellinbank, Victoria, 3821
Telephone: 03 5624 2235
natalie.nelson@ecodev.vic.gov.au

To find out the latest information on the project visit the project website at:
www.agriculture.vic.gov.au/dairyfarmmonitor

© The State of Victoria Department of Economic Development, Jobs, Transport and Resources Melbourne 2018.

This publication is copyright. No part may be reproduced by any process except in accordance with the provisions of the Copyright Act 1968.

Authorised by the Victorian Government, 1 Spring Street, Melbourne.

Print managed by Finsbury Green.

ISSN 1835-9922

For more information contact the DEDJTR Customer Service Centre 136 186

Disclaimer

This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

Accessibility

If you would like to receive this publication in an accessible format, please telephone 136 186.

This document is also available in PDF and Word format at: www.agriculture.vic.gov.au/dairyfarmmonitor

or PDF format at:
www.dairyaustralia.com.au/dairyfarmmonitor

Contents

Acknowledgements	01
List of Figures	03
List of Tables	03
How to read this report	04
What's new in 2017-18	05
I. Summary	06
II. Farm monitor method	08
Part One: Statewide Overview	12
Whole farm analysis	14
Risk	18
Physical measures	19
Part Two: The North	22
Whole farm analysis	24
Feed consumption and fertiliser	30
Part Three: The South West	32
Whole farm analysis	34
Feed consumption and fertiliser	40
Part Four: Gippsland	42
Whole farm analysis	44
Feed consumption and fertiliser	50
Part Five: Business confidence survey	52
Expectations and issues	53
Part Six: 2017-18 Greenhouse gas emissions	58
Part Seven: Historical analysis	64
Appendices	72
Appendix A: Statewide summary tables	73
Appendix B: North summary tables	77
Appendix C: South West summary tables	85
Appendix D: Gippsland summary tables	93
Appendix E: Glossary of terms, abbreviations and standard values	101

List of figures

- Figure 1.** Dairy farm monitor project map - State average data 2017-18
- Figure 2.** Distribution of participant farms in 2017-18 across Victoria
- Figure 3.** Monthly rainfall 2017-18
- Figure 4.** Average earnings before interest and tax per kilogram of milk solids sold
- Figure 5.** Distribution of farms by return on total assets
- Figure 6.** Distribution of farms by return on equity
- Figure 7.** Sources of whole farm metabolisable energy
- Figure 8.** Estimated tonnes of home grown feed consumed per milking hectare
- Figure 9.** Nutrient application per hectare
- Figure 10.** Monthly distribution of milk production
- Figure 11.** Monthly distribution of calving
- Figure 12.** 2017-18 annual rainfall and long-term average rainfall – North
- Figure 13.** Milk solids sold – North
- Figure 14.** Gross farm income per kilogram of milk solids – North
- Figure 15.** Whole farm variable and overhead costs per kilogram of milk solids – North
- Figure 16.** Whole farm earnings before interest and tax per kilogram of milk solids – North
- Figure 17.** Return on total assets – North
- Figure 18.** Return on equity – North
- Figure 19.** Sources of whole farm metabolisable energy – North
- Figure 20.** Estimated tonnes of home grown feed removed per milking hectare – North
- Figure 21.** Nutrient application per usable hectare – North
- Figure 22.** 2017-18 annual rainfall and long-term average rainfall – South West
- Figure 23.** Milk solids sold – South West
- Figure 24.** Gross farm income per kilogram of milk solids – South West
- Figure 25.** Whole farm variable and overhead costs per kilogram of milk solids – South West
- Figure 26.** Whole farm earnings before interest and tax per kilogram of milk solids – South West
- Figure 27.** Return on total assets – South West
- Figure 28.** Return on equity – South West
- Figure 29.** Sources of whole farm metabolisable energy – South West
- Figure 30.** Estimated tonnes of home grown feed removed per milking hectare – South West
- Figure 31.** Nutrient application per usable hectare – South West
- Figure 32.** 2017-18 annual rainfall and long-term average rainfall – Gippsland
- Figure 33.** Milk solids sold per hectare and per cow – Gippsland
- Figure 34.** Gross farm income per kilogram of milk solids – Gippsland
- Figure 35.** Whole farm variable and overhead costs per kilogram of milk solids – Gippsland
- Figure 36.** Whole farm earnings before interest and tax per kilogram of milk solids – Gippsland
- Figure 37.** Return on total assets – Gippsland
- Figure 38.** Return on equity – Gippsland
- Figure 39.** Sources of whole farm metabolisable energy – Gippsland
- Figure 40.** Estimated tonnes of home grown feed removed per milking hectare – Gippsland
- Figure 41.** Nutrient application per hectare (usable area) – Gippsland
- Figure 42.** Expected change to farm business profit in 2018-19
- Figure 43.** Producer expectations of prices and production of milk in 2018-19
- Figure 44.** Producer expectations of production of fodder in 2018-19
- Figure 45.** Producer expectations of costs for the dairy industry in 2018-19
- Figure 46.** Major issues for individual businesses – 12 month outlook
- Figure 47.** Major issues for individual businesses – 5 year outlook
- Figure 48.** 2017-18 greenhouse gas emissions per tonne of milk solids produced (co2 equivalent)
- Figure 49.** Greenhouse gas emissions per tonne of milk solids sold (co2 equivalent) – North
- Figure 50.** Greenhouse gas emissions per tonne of milk solids sold (co2 equivalent) – South West
- Figure 51.** Greenhouse gas emissions per tonne of milk solids sold (co2 equivalent) – Gippsland
- Figure 52.** Historical farm profitability (real \$) – North
- Figure 53.** Historical whole farm performance – North
- Figure 54.** Historical farm profitability (real \$) – South West
- Figure 55.** Historical whole farm performance – South West
- Figure 56.** Historical farm profitability (real \$) – Gippsland
- Figure 57.** Historical whole farm performance – Gippsland
- Figure 58.** Regional historical earnings before interest and tax (real \$)
- Figure 59.** Regional historical net farm income (real \$)
- Figure 60.** Regional historical return on total assets
- Figure 61.** Regional historical return on equity

List of tables

- Table 1.** Farm physical data – State overview 2017-18
- Table 2.** Average farm financial performance per kilogram of milk solids - Statewide
- Table 3.** Risk indicators - Statewide and by region
- Table 4.** Farm physical data – North
- Table 5.** Average farm financial performance per kilogram of milk solids – North
- Table 6.** Cost of production – North
- Table 7.** Farm physical data – South West
- Table 8.** Average farm financial performance per kilogram of milk solids – South West
- Table 9.** Cost of production – South West
- Table 10.** Farm physical data – Gippsland
- Table 11.** Average farm financial performance per kilogram of milk solids – Gippsland
- Table 12.** Cost of production – Gippsland

How to read this report

This section explains calculations used and data presented in this report. The purpose of the different sections of the report is also discussed.

This report is presented in the following sections:

- Summary
- DFMP method
- Statewide overview
- North region overview
- South West region overview
- Gippsland region overview
- Business confidence survey
- Greenhouse gas emissions report
- Historical analysis
- Appendices

Participants were selected for the project to represent a distribution of farm sizes, herd sizes and geographical locations within each region. The results presented do not represent population averages as the participant farms were not selected using random population sampling.

The report provides visual representations of the data for the 2017-18 year. Data are presented for individual farms, as regional averages and for the regional top 25% of farms ranked by RoTA. The presented averages should not be considered averages for the population of farms in a given region due to the sample not being stratified.

The top 25% of farms are presented as lighter coloured bars in the regional overview figures. The RoTA indicator was used to identify the top 25% of producers as it provides an assessment of the performance of whole farm performance irrespective of differences in location and production system.

The Q1 - Q3 data range for key indicators are presented to provide an indication of the variation in the data. The Q1 value is the quartile 1 value, that is, the value of which one quarter (25%) of data in that range are less than the average. The Q3 value is the quartile 3 value that is the value of which one quarter (25%) of data in that range is greater than the average. Therefore, the middle 50% of data reside between the Q1-Q3 data range. Given the differences in variation in the regional data, one region should not be compared to another.

This report refers to the group of participating farms in a given region by their regional name:

- The 25 participating farms in the Northern Victoria region are referred to as 'the North'.
- The 25 participating farms in the South Western Victoria region are referred to as 'the South West'.
- The 25 participating farms in the Gippsland region are referred to as 'Gippsland'.

The appendices include detailed data tables, a list of abbreviations, standard values used and a glossary of terms.

Milk production data are presented in kilograms of milk solids as farmers are paid based on milk solids sold.

The report focuses on measures on a per kilogram of milk solids basis, with occasional reference to measures on a per hectare or per cow basis. The Appendix Tables contain most of the financial information per kilogram of milk solids.

Percentage differences are calculated as $[(\text{new value} - \text{original value}) / \text{original value}]$. For example, 'costs went from \$80/ha to \$120/ha, a 50% increase': $[(120-80)/80] \times (100/1) = [(40/80) \times 100] = 0.5 \times 100 = 50\%$, unless otherwise stated.

The top 25% consists of six farms from each of the North, the South West and Gippsland regions and 19 farms on a statewide basis. The 19 farms in the statewide top 25% are taken by considering all 75 as the one sample and not from combining the top farms from each region.

Any reference to 'last year' refers to the 2016-17 Dairy Farm Monitor Project Victoria Annual Report. Price and cost comparisons between years are nominal unless otherwise stated. Not all the participants from 2016-17 are in the 2017-18 report, as there were new participants in the 2017-18 dataset. It is important to bear this in mind when comparing datasets between years. At the start of each regional chapter farms that are new to the project are identified.

Please note that text explaining terms may be repeated within the different chapters.

What's new in 2017-18

The Dairy Farm Monitor Report for 2017-18 includes a few changes from last year's report.

- Data in this report are produced using standard values, which have been outlined in Appendix E. The standard values for livestock, imputed labour and irrigation have been revised to align with market values. These standard values may vary from other organisation's standard values. Care should be taken when directly comparing the results of multiple benchmarking studies.
- Within the overhead cost category, registration and insurance have now been separated into farm insurance and motor vehicle expenses. Farm insurance relates to all farm insurance that is not personal such as death and total and permanent disability (TPD), and motor vehicle expenses includes registration, insurance, fuel and repairs on vehicles.
- Return on assets is now referred to as return on total assets.
- Water use previously reported as mm/ha is now reported as total water use efficiency (t DM/100mm/ha). Total water use efficiency estimates the amount of home grown feed produced from rainfall and irrigation applied across the usable area. This calculation aligns with DairyBase and the Dairy Moving Forward Feedbase targets.
- Australia's dairy industry greenhouse gas emissions calculator, the national greenhouse gas inventory (NGGI), was used in conjunction with the physical and financial data provided by participant farms. The NGGI emissions calculator is now embedded within DairyBase resulting in some small differences with data entry and care should be taken when comparing between calculators.
- Comments from participants is a new section to the business confidence chapter, highlighting issues or considerations facing farmers in the coming years.

Keep an eye on the project website for further reports and updates on the project at:

<http://www.agriculture.vic.gov.au/dairyfarmmonitor>

or

<http://www.dairyaustralia.com.au/dairyfarmmonitor>

I. Summary



Summary

Across Victoria, average profit in 2017-18 was the fifth lowest, in real terms, recorded over the 12-year history of the project and reflects the challenging seasonal conditions despite improved milk prices. Return on total assets (RoTA) remained constant at 2.5% year-on-year across the state on average. However, there is notable variation between the regions.

The DFMP provides farm level data relating to dairy profit and production in Victoria and was produced for the twelfth time this year.

In 2017-18, average profits remained comparable with the 2016-17 year with whole farm earnings before interest and tax (EBIT) decreasing to \$159,000, compared with \$167,000 reported in 2016-17.

In 2017-18, 80% of participants (60 of the 75 farms) recorded a positive RoTA, with a range of negative 5.3% to positive 10.6%. While fewer farms recorded a positive result compared with the previous year (67 of the 75 farms), the range was narrower this year.

All Victorian dairying regions had challenging seasonal conditions in 2017-18. Reduced rainfall compared to the previous year resulted in decreased home grown feed as a percentage of ME consumed. Farms fed additional imported fodder, at generally higher prices and utilised their feed reserves to manage the long, dry, hot summer. As a result, purchased feed and agistment costs increased by 16% across the state, from \$1.55/kg MS in 2016-17 up to \$1.80/kg MS in 2017-18.

While the season was challenging, milk price improved by 15% on average to \$5.81/kg MS, up from \$5.07/kg MS, and was the seventh highest price in the history of the project.

The North

The 2017-18 season presented challenges for farmers in the North, yet it was better than the previous year with good pasture growth, higher milk production and improved milk price. Rainfall was 92% of the long-term average, however, it was boosted by a large rainfall event in December. The conditions turned hot heading into summer and autumn, and on average farms used more irrigation water, purchased additional feed and utilised their fodder reserves. Farmers who purchased water and developed feed budgets early in the season were rewarded as the price of water and feed increased towards the end of the year. Irrigators received 100% allocation of their high reliability water shares and the median price of temporary (allocation) water was \$110/ML. The 11-year average of allocation water price on the Greater Goulburn system is \$164/ML in real terms.

In the North, RoTA increased to 2.5% and EBIT increased to \$185,000, the sixth highest recorded in the history of the project. Average RoE returned to positive values, posting 1.2% in 2017-18 and net farm income was \$73,000.

The South West

The South West region experienced the extremes in seasonal conditions with a wet winter before a long, hot, dry summer. Farmers supplemented their lower pasture production with additional fodder purchases and utilised their fodder reserves. While milk price improved 8% up to \$5.80/kg MS, it did not compensate for the steep rise in feed costs.

In contrast to the other two regions, South West profits decreased in 2017-18. On average, EBIT halved compared to the previous year, falling from \$259,000/farm to \$145,000/farm. Similarly, RoTA fell from 4.2% to 1.8%. Average net farm income also halved to \$23,000/farm and RoE to negative 1.2%.

Gippsland

Milk price also recovered in Gippsland this year and increased by 19% to \$5.74/kg MS, up from \$4.84/kg MS last year, following three years of continual lower prices. However, as the dry conditions persisted, farmers utilised their fodder reserves and purchased additional fodder; more than they were planning to.

Average EBIT increased slightly from the previous year to \$144,000/farm and net farm income increased to \$50,000/farm. These results ranked as the seventh highest over the history of the project. The highest RoTA of all the regions was recorded in Gippsland at 3.0% and RoE was 1.0% on average.

Farmer confidence

Farmers' expectations about their business returns for the 2018-19 season were cautious. While over two-thirds of farmers predict their business returns would improve in 2018-19, many participants were concerned about seasonal variability in the coming year. Input costs were the major issue identified for the coming 12 months, while milk price and climate variability were also identified as concerns over the longer term.

II. DFMP method



DFMP method

This chapter explains the method used in the DFMP and defines the key terms used. The profit and production performance of dairying businesses is generated using whole farm analysis principles and is consistent with Dairy Australia's DairyBase.

The DFMP provides the dairy industry and government with objective, farm-level information for targeted strategy and decision making. The method was adapted from The Farming Game (Malcolm *et al.* 2005) and is consistent and comparable with previous DFMP and Dairy Australia's DairyBase.

DairyBase is a national dairy database that enables dairy farmers to measure and compare farm business performance over time. The database stores farm-level data generated from the DFMP and publishes aggregated data from a minimum of six other farms. The standardised database provides industry with the same method and terms for farm financial reporting.

The DFMP method is presented as a profit map in Figure 1 and shows how the different farm business economic terms are calculated. The performance of all project participants in 2017-18 is also shown.

The diagram illustrates the different profit measures, as costs are deducted from gross farm income. Growth in profit is achieved by investing in assets which generate income. These assets can be owned with equity (one's own capital) or debt (borrowed capital). The amount of growth is dependent on maximising the margin between income and costs, or cost efficiency relative to income generation.

Gross farm income

The farming business generates a gross farm income which is the sum of milk cash income (net), livestock trading profit, or other sources. The main source of income is from milk solids sold.

Variable costs

Variable costs are the costs specific to an enterprise, such as herd, shed and feed costs. These costs vary in relation to the size of the enterprise. Subtracting variable costs for the dairy enterprise only from gross farm income, gives the gross margin. Gross margins are a common method for comparing between similar enterprises and are commonly used in broad acre cropping and livestock enterprises. Gross margins are not generally used in isolation for economic analyses of dairy farming businesses due to the specific infrastructure investment required to operate a dairy farm making it less desirable to switch enterprise.

Overhead costs

Overhead costs are those costs not directly related to an enterprise as they are expenses incurred through the general operating of the business. The DFMP separates overheads into cash and non-cash overheads, to distinguish between different cash flows within the business.

Cash overheads include rates, insurance, and repairs and maintenance. Non-cash overheads include costs that are not actual cash receipts or expenditure; for example, depreciation on a piece of equipment. Imputed operator's allowance for labour and management is also a non-cash overhead that must be costed and deducted from income if a realistic estimate of costs, profit and return on the capital of the business is to be obtained.

Earnings before interest and tax

Gross farm income minus variable and overhead costs is EBIT, and is the return from all capital used in the business.

Net farm income

Net farm income is EBIT minus interest and lease costs and is the reward to the farmer's own capital. Interest and lease costs are viewed as financing expenses, either for borrowed money or leased land that is being utilised.

Net farm income is then used to pay tax and what is remaining is net profit or surplus and therefore growth, which can be invested into the business to expand the equity base, either by direct reinvestment or the payment of debt.

Return on total assets and return on equity

Two commonly used economic indicators of whole farm performance are RoTA and RoE. They measure the return to their respective capital base.

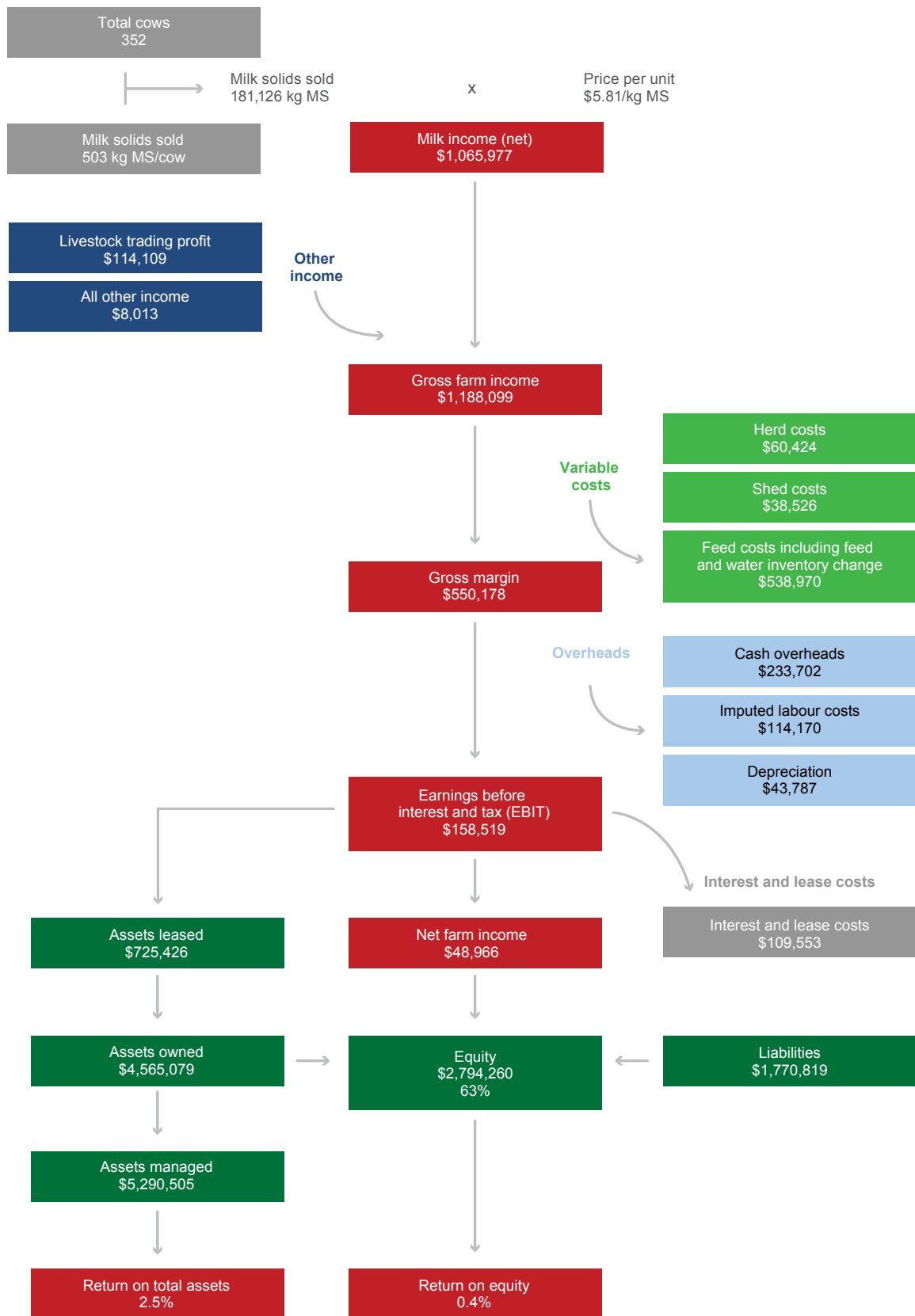
An indicator of the overall earning rate of the total farm assets is RoTA, irrespective of the capital structure of the business. It is EBIT expressed as a percentage of the total assets under management in the farm business, including the value of leased assets.

A measure of the owner's rate of return on their own capital investment in the business is RoE. It is net farm income expressed as a percentage of total equity (one's own capital).

The equity percent of total capital or debt: equity ratio varies depending on the individual farm business and farm owner's attitude towards risk.

Further RoTA from any increase in the value of assets over the year, such as capital appreciation, is not considered in the DFMP method. If land value increases 5% over the year, this is added to the return from farming to give total return to the investment. This RoTA can be compared with the performance of alternative investments with similar risk in the economy.

FIGURE 1. DAIRY FARM MONITOR PROJECT MAP - STATE AVERAGE DATA 2017-18¹



¹Profit map adapted from Queensland Dairy Accounting Scheme - 2010 with permission from Ray Murphy, Department of Employment, Economic Development and Innovation, Queensland.

Part One:
**Statewide
Overview**



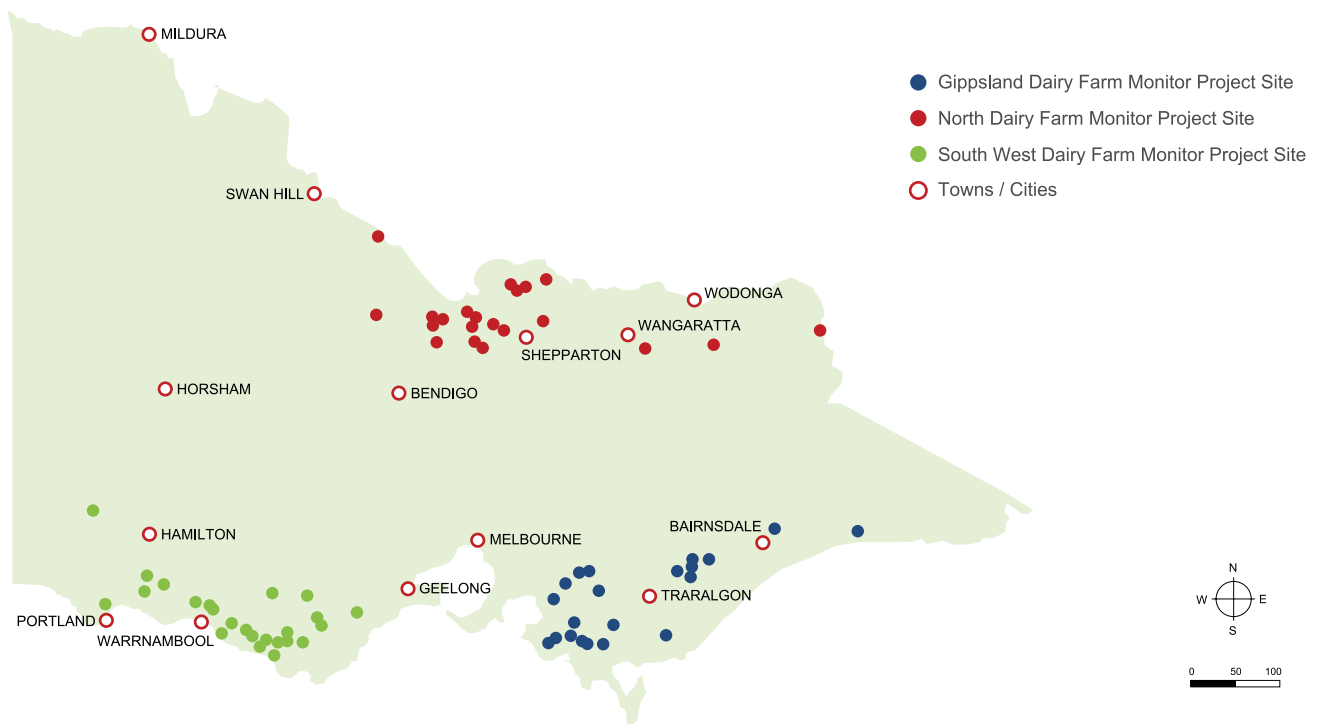
Statewide overview

This section compares the average performance and the range of physical and financial indicators for all participant farms across Victoria from the North, the South West and Gippsland regions.

Victoria produces 64% of Australia's national milk production, producing 5.77 billion litres in 2017-18. The state accounted for 79% of the national dairy exports with the largest export market for dairy being Japan and China in 2016-17. As a result, returns to Victorian dairy farmers are strongly connected to world dairy commodity prices.

The location of Victoria's dairy farms is predominately in the North, South West and Gippsland regions. The approximate locations of the participating farms in 2017-18 are shown in Figure 2.

FIGURE 2. DISTRIBUTION OF PARTICIPANT FARMS IN 2017-18 ACROSS VICTORIA



2017-18 seasonal conditions

Annual rainfall for much of the state was either below average or very much below average for the period 1 July 2017 to 30 June 2018. Annual rainfall totals across the state were 92% of the long-term average compared to 106% last year.

The North received 92% of average long-term rainfall with 448mm, the South West received 811mm of rainfall or 101% of average long-term rainfall, while Gippsland was drier than the other two regions, only receiving 85% of the long-term average rainfall with 746mm.

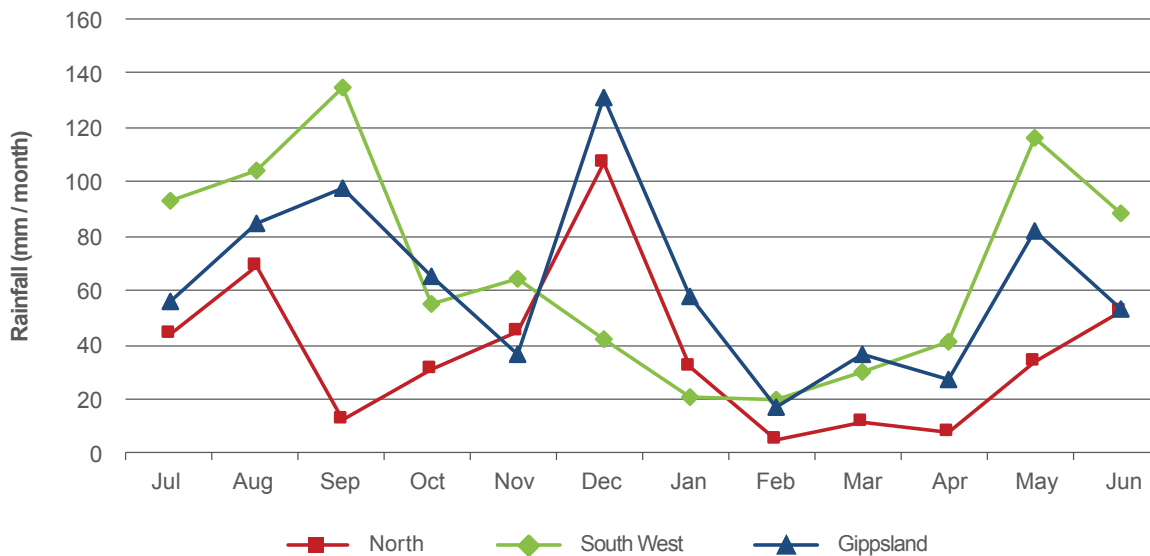
In addition to below long-term average rainfall, the rainfall events were sporadic with a drier spring, autumn and winter periods.

The timing of rainfall events were not conducive to growing adequate pasture for direct grazing or conservation. In Gippsland and the North, annual rainfall totals were only boosted by a large rainfall event in December, well after the water was needed for pastures and crops. Whereas a large rainfall total was received in September in the South West region. The average monthly rainfall pattern in 2017-18 for each region is shown in Figure 3.

Fodder reserves across all three regions reduced significantly, with home grown sources of feed also decreasing as a portion of the diet.

The regional sections provide more detail on the 2017-18 seasonal conditions.

FIGURE 3. MONTHLY RAINFALL 2017-18



Whole farm analysis

All regions in Victoria found the seasonal conditions challenging to manage in 2017-18. Rainfall was sporadic and significantly reduced from the 2016-17 annual totals, resulting in reduced home grown feed as a percentage of ME consumed across the state, from 65% to 62%. Overall, profits remained similar to last year, however there was mixed performance between the regions.

Average herd size across all three regions increased slightly this year to 352 cows from an average of 342 cows last year. A decrease in usable hectares was seen in the North and Gippsland, but an increase was observed in the South West, some of which is partially explained by changes in participant farms this year.

Average per cow MS production remained stable for the State, but large variations between the regions occurred. There was a minor increase in milk solids production per hectare. Labour efficiency for the State also remained stable but saw some regional reductions or improvements compared to last year.

Farmers had less feed from available from home grown sources due to reduced pasture growth hence used home grown feed storages and imported more feed, therefore increasing costs for their businesses this year.

Table 1 presents the average of farm physical parameters for the State and for each region. Further details can be found in Appendix Table 2 for each region.

TABLE 1. FARM PHYSICAL DATA – STATE OVERVIEW 2017-18

Farm Physical Parameters	Statewide	North	South West	Gippsland
Number of farms in sample	75	25	25	25
Herd size (max no. cows milked for at least 3 months)	352	383	378	294
Annual rainfall 2017-18 (mm)	668	448	811	746
Total water use efficiency (t DM/100mm/ha)	0.7	0.7	0.6	0.9
Total usable area (hectares)	264	269	333	189
Stocking rate (cows per usable hectare)	1.5	1.6	1.1	1.8
Milk sold (kg MS/cow)	503	535	502	471
Milk sold (kg MS/ha)	752	838	569	849
Home grown feed as % of ME consumed	62%	59%	62%	66%
Labour efficiency (cows/FTE)	106	106	100	113
Labour efficiency (kg MS/FTE)	52,988	55,679	50,292	52,992

Gross farm income

Gross farm income includes all farm income from milk sales, livestock trading and income from other farm sources such as milk share dividends.

Milk income accounted for 90% of gross farm income, a significant increase compared to previous years. This was mainly the result of an improvement to milk prices across all three regions.

Total milk (net) income increased by 17% on the back of a 15% increase in milk price received per kilograms of milk solids sold. This indicates that on average participants produced greater amounts of milk solids in addition to receiving a better milk price.

Once again in 2017-18, milk income was supplemented predominantly with good livestock trading conditions, resulting in 10% of gross farm income from this source. Competitive market livestock prices prevailed throughout the season, underpinned by reduced availability of feed and increased feed prices. Farmers chose to sell excess animals rather than carrying them through at increased costs.

The average milk price for all participants was \$5.81/kg MS, a 15% increase from the previous year. In real terms (when inflation is considered), the milk price received was the seventh highest milk price in the 12-year history of the project. The largest increase in milk price was \$0.91/kg MS to \$5.74/kg MS for Gippsland (19%), whereas the North increased \$0.74/kg MS (14%) and the South West increased \$0.56/kg MS (11%) on the previous year.

Variable costs

Variable costs are those costs that vary with the size of production in the enterprise e.g. herd, shed and feed costs (including feed and water inventory changes). Table 2 shows the largest cost was purchased feed and agistment at \$1.80/kg MS for the state average, a 16% increase on the previous year (\$1.55/kg MS) and was one of the main factors leading to increased costs this season across all three regions.

Total feed costs, including home grown feed, purchased feed and agistment and feed and water inventory change, accounted for \$2.93/kg MS on average and between 33% and 66% of total costs (variable plus overhead) for participants across the State. See Appendix Table 6 for a breakdown of variable costs as a percentage of total costs in each region.

The gross margin is equal to gross farm income minus total variable costs. While commonly used to compare enterprises that have a similar capital structure like sheep or beef, it can be a useful measure in dairy to analyse changes on farm that do not require capital investment.

The statewide average gross margin was \$2.95/kg MS, similar to last year, on the back of an increase in milk price resulting in better overall farm profitability.

Overhead costs

Overhead costs are 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 non-cash costs such as imputed owner-operator labour, family labour and depreciation of plant and equipment.

The imputed labour rate is calculated as \$30.33 per hour (compared to \$28/hour to better reflect market conditions). Further information on imputed labour can be found in Appendix E.

Average overhead costs increased this year to \$2.29/kg MS, up from \$2.16/kg MS last year. The largest increase occurred in the area of paid labour and repairs and maintenance, with the South West increasing their expenditure in repairs and maintenance significantly this season. The South West and Gippsland significantly increased expenses for employed in 2017-18, compared to the North and Gippsland, which remained the same as last year.

The North had the highest variable costs while the South West had the greatest total overhead costs in 2017-18. Gippsland, once again, had the lowest overall cost structure of \$5.42/kg MS (Table 2).

TABLE 2. AVERAGE FARM FINANCIAL PERFORMANCE PER KILOGRAM OF MILK SOLIDS - STATEWIDE

Farm income and cost category	Statewide	North	South West	Gippsland
INCOME				
Milk income (net)	\$5.81	\$5.87	\$5.80	\$5.74
Livestock trading profit	\$0.57	\$0.62	\$0.58	\$0.49
All other farm income	\$0.04	\$0.05	\$0.04	\$0.02
Gross farm income	\$6.41	\$6.55	\$6.42	\$6.26
VARIABLE COSTS				
Herd cost	\$0.31	\$0.34	\$0.29	\$0.31
Shed cost	\$0.22	\$0.20	\$0.24	\$0.21
Home grown feed cost	\$1.01	\$1.24	\$0.91	\$0.88
Purchased feed and agistment	\$1.79	\$1.82	\$1.83	\$1.73
Feed inventory change	\$0.09	\$0.03	\$0.17	\$0.08
Water inventory change	\$0.04	\$0.11	\$0.00	\$0.00
Total feed costs	\$2.93	\$3.21	\$2.90	\$2.69
Total variable costs	\$2.95	\$3.75	\$3.43	\$3.21
GROSS MARGIN				
per kilogram of milk solids	\$2.95	\$2.79	\$2.99	\$3.05
OVERHEAD COSTS				
Employed labour	\$0.56	\$0.53	\$0.57	\$0.57
Repairs and maintenance	\$0.34	\$0.34	\$0.41	\$0.26
All other overheads	\$0.29	\$0.26	\$0.31	\$0.28
Imputed owner/operator and family labour	\$0.87	\$0.79	\$0.93	\$0.90
Depreciation	\$0.24	\$0.22	\$0.29	\$0.20
Total overhead costs	\$2.29	\$2.14	\$2.51	\$2.21
Variable and overhead costs	\$5.75	\$5.89	\$5.94	\$5.42
EARNINGS BEFORE INTEREST AND TAX				
per kilogram of milk solids	\$0.66	\$0.65	\$0.48	\$0.84

Earnings before interest and tax

Gross farm income minus total variable and total overhead costs is EBIT. As EBIT excludes tax, interest and lease costs, it can be used to analyse the operational efficiency of the whole farm business.

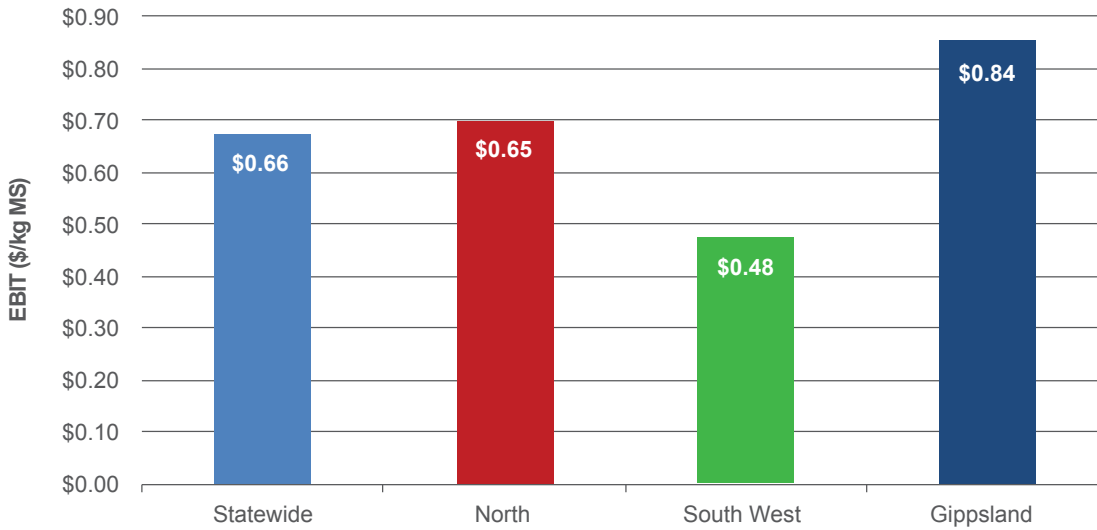
Average EBIT, again decreased across the State this year with an average of \$0.66/kg MS, a reduction of 12% from \$0.75/kg MS in 2016-17. The decrease in EBIT was not consistent across all three regions. The North saw an increase of 77% to \$0.65/kg MS and Gippsland increased by 16% to \$0.84/kg MS.

However, EBIT decreased in the South West by 58% to \$0.48/kg MS in 2017-18 (Figure 4).

The change in EBIT across the regions directly reflects the impact of the improvement in milk prices received in the North and Gippsland, and a much lower increase in milk price received in the South West. All three regions experienced an increase in costs due to adverse seasonal conditions and were challenged in managing feed supplies.

Figures 16, 26 and 36 in the regional sections present the range in EBIT received by participant farms this year.

FIGURE 4. AVERAGE EARNINGS BEFORE INTEREST AND TAX PER KILOGRAM OF MILK SOLIDS SOLD



Return on total assets and equity

The return from total assets under management, including owned and leased assets, is RoTA. It is calculated as EBIT divided by total assets.

There was no real improvement to the average RoTA for participants across the state in 2017-18. The RoTA was 2.5%, the same as last year. The negative 5.3% to positive 10.6% range in RoTA was much narrower than last year.

Even with increased incomes, mainly from improved milk prices received, variable and overhead cost increases offset any benefit. Across the state, 59 of the 75 farms (79%) recorded a positive RoTA compared to 89% of the participant farms last year. Figure 5 shows majority of farms had RoTA between 0% and 5%.

A measure of the owner’s rate of return on their own capital investment in the business is RoE.

The average RoE for the 75 farms was 0.4%, a further decrease from the 1.0% RoE received by participants last year. The range in RoE for the State was negative 28.0% and 17.7% this year, with a median RoE of 0.4% (Figure 6).

The decrease in average RoE for the State was mainly the result of a significantly reduced RoE in the South West of negative 1.1%. Overall, interest and lease charges did not increase significantly.

Further discussion of RoTA and RoE occur in the risk section below and later in the regional chapters. Appendix Table 1 presents RoTA and RoE for the participant farms for each region.

FIGURE 5. DISTRIBUTION OF FARMS BY RETURN ON TOTAL ASSETS

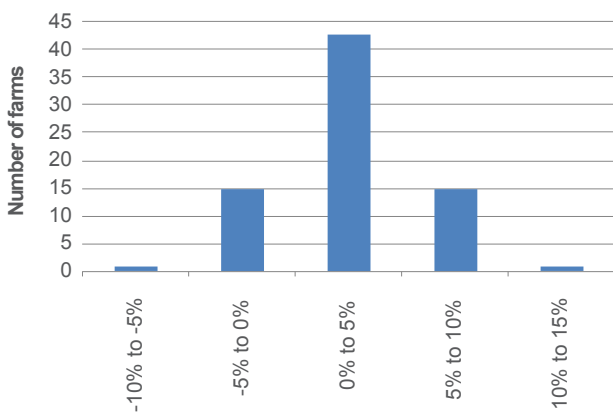
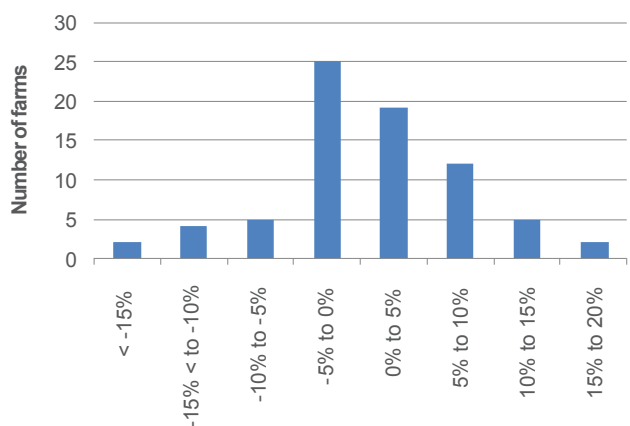


FIGURE 6. DISTRIBUTION OF FARMS BY RETURN ON EQUITY



Risk

"Risk is conventionally classified into two types: business risk and financial risk. Business risk is the risk any business faces regardless of how it is financed. It comes from production and price risk, uncertainty and variability. Business risk refers to variable yields of crops, reproduction rates, disease outbreaks, climatic variability, unexpected changes in markets and prices, fluctuations in inflation and interest rates, and personal mishap... Financial risk derives from the proportion of other people's money that is used in the business relative to the proportion of owner-operator's capital..."²

Table 3 presents some key risk indicators. Refer to Appendix E for the definition of terms used in Table 3. The indicators in Table 3 can also be found in Appendix Tables 1, 3 and 8 for each region.

TABLE 3. RISK INDICATORS - STATEWIDE AND BY REGION

	Statewide	North	South West	Gippsland
Cost structure (percentage of total costs as variable costs)	60%	64%	58%	60%
Debt service ratio (percentage of income as finance costs)	10%	8%	10%	11%
Debt per cow	\$4,657	\$4,663	\$4,816	\$4,492
Equity percentage (ownership of total assets managed)	63%	61%	64%	64%
Percentage of feed imported (as a % of total ME)	38%	41%	38%	34%

All farms are exposed to business and financial risk. It is through managing risk that greater profits can be made. It is also the case that by accepting a level of risk in one area of business, a greater risk in another area can be avoided. Using the example of feed sources, dairy farmers are generally better at dairy farming than they are at grain production. Therefore, by allowing someone who is experienced in producing grain to supply them, they lessen the production and other business risks as well as the financial risks they would have exposed themselves to by including extensive cropping in their own business. The trade-off is that they are in turn exposed to price and supply risks.

The trade-off between perceived risk and expected profitability will dictate the level of risk a given individual is willing to take. While in good times this will result in lower returns, in more challenging times it will lessen the losses.

The higher the risk indicator (or lower equity %) in Table 3, the greater the exposure to the risk of a shock in those areas of the business. Further, the data in Appendix Tables 4 and 5 are in cost per kilograms of milk solids sold.

This data set is best used as risk indicators, given it is measured against the product produced and sold currently and not the capital invested.

The cost structure ratio provides variable costs as a proportion of total costs. A lower ratio implies that overhead costs comprised a greater proportion of total costs which in turn indicates less flexibility in the business. Table 3 shows that across the state for every \$1.00 spent, \$0.60 was used to cover variable costs, a slight increase from last year (\$0.57), however it is worth noting that cost structure varies between regions and farms. One hundred minus this percentage gives the proportion of total costs that are overhead costs.

The debt services ratio shows interest and lease costs, as a proportion of gross farm income. The ratio of 10% this year means that on average farms repaid \$0.10 of every dollar of gross farm income to their creditors.

Equity levels across the state increased this year, with a state average of 63% this year, compared to 62% last year. The equity levels in the North and the South West remained unchanged from last year, however the equity level increased in Gippsland this year to 64% from 61% last year.

The benefit of taking risks and borrowing money can be seen when farm incomes yield a higher return on equity than on their return on assets. When the percentage of return on equity increases compared to return on assets, it is the result of a higher return from the additional assets than the interest or lease rate. In 2017-18, 23 of the 75 (31%) participant farms received a return on equity greater than their return on assets. Last year, 18 of the 75 (24%) participant farms achieved this.

Similar to previous years, all farms in the DFMP in 2017-18 sourced at least some of their ME from imported feeds and are therefore somewhat exposed to fluctuations in prices and supply in the market for feed. The exposure to risk in 2017-18 was considerable, and significant increases in both concentrate and fodder prices negatively influenced feed costs in all three regions. Exposure to risk was inevitable due to the poorer growing conditions and reduced pasture availability across the state, requiring farmers to source additional feed to maintain production.

²Malcolm, L.R., Makeham, J.P. and Wright, V. (2005), *The Farming Game*, Agricultural Management and Marketing, Cambridge University Press, New York. p180.

Physical measures

Feed consumption

The contribution of different feed sources to the total ME consumed on the farm is presented in Figure 7. This includes feed consumed by dry cows and young stock.

A cow's diet can consist of grazed pasture, harvested forage, grains, concentrates and other imported feeds. While grazed pasture on the usable area made up the largest source of ME in the cow's diet across all regions, the South West had the lowest proportion of directly grazed feed consumed of the three regions with only 41% of ME coming from direct grazing. The North had 46% of ME from directly grazed pasture and Gippsland had 55% of ME coming from directly grazed pasture.

The greatest reduction in directly grazed pasture as the primary source of ME was seen in the South West this year. Last year South West participants sourced 52% of ME from directly grazed pasture, compared to the North sourcing 45% of ME and Gippsland, 59% directly from pasture in 2016-17.

Concentrate contribution to ME in the diet was similar across regions with Gippsland obtaining 30% of ME from concentrates, the North 31% of ME and the South West 33% of ME. This was an increase in concentrates as a source of ME in all three regions from 28% in Gippsland, 31% in the South West, and the North which had 32% of the ME respectively from concentrates last year.

Appendix Table 3 provides further information on purchased feed in each region.

FIGURE 7. SOURCES OF WHOLE FARM METABOLISABLE ENERGY

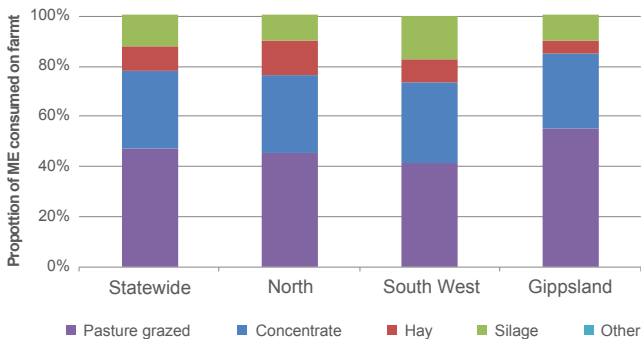


Figure 8 and Appendix Table 2 gives estimates of the average quantity of home grown feed consumed per milking hectare of sample farms across the state. It accounts only for the consumption of pasture that occurred on the milking area whether by milking, dry or young stock.

Estimated home grown feed consumed was calculated based on the total ME required on the farm, determined by stock numbers on the farm, liveweight, average distance stock walked to and from the dairy and milk production. ME imported from other feed sources is subtracted from the total farm ME requirements over

the year to give estimated total ME produced on farm, divided into grazed and conserved feed, depending on the quantity of fodder production recorded.

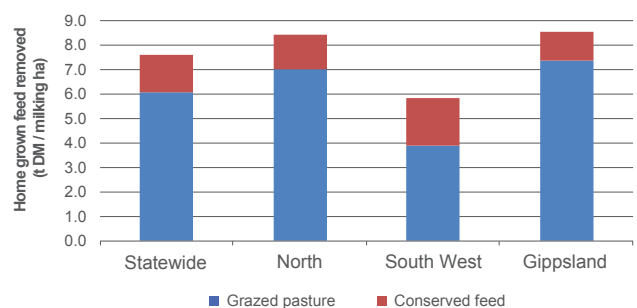
Total home grown feed consumed on the milking area (by direct grazing plus conservation) in 2017-18 was 7.6 t DM/ha, reducing considerably from 8.1 t DM/ha, recorded last year. The observed reduction in pasture consumption was due to the poor and inconsistent growing conditions experienced in 2017-18.

The North directly grazed 7.0 t DM/ha and conserved 1.4 t DM/ha, an improvement on last year's 6.8 t DM/ha directly grazed and 0.7 t DM/ha conserved. Despite poorer rainfall timing and growing conditions, participants in the North had considerably better growing conditions than the water inundation experienced in 2016-17.

The 2017-18 dry conditions had the greatest impact on pasture consumption in the South West. Directly grazed pasture consumption reduced to 3.9 t DM/ha and 1.9 t DM/ha was conserved with overall pasture consumption 5.8 t DM/ha, a 17% decrease. Last year, pasture consumption was 7.0 t DM/ha with 4.8 t DM/ha being directly grazed and 2.2 t DM/ha conserved as either hay or silage.

Gippsland participants also experienced a reduction in overall pasture consumption on the milking area to 8.6 t DM/ha on average. This was comprised of 7.4 t DM/ha directly grazed and 1.2 t DM/ha conserved. Directly grazed pasture was 7.8 t DM/ha last year plus 1.4 t DM/ha conserved forage, reflecting the poorer growing and conservation conditions experienced in this region in 2017-18.

FIGURE 8. ESTIMATED TONNES OF HOME GROWN FEED REMOVED PER MILKING HECTARE



Fertiliser application

Application of nutrients utilised this year for the State and the regions is shown in Figure 9. Across the State, there was on average 6% less nitrogen used this year (on a kilogram per hectare basis).

In general terms, lower levels of nutrients were applied in the North and the South West, but were increased in Gippsland. On a state-wide basis, there was 9% less phosphorous applied, 9% more potassium and 28% less sulphur.

The North applied 3% less nitrogen this year on average with 102 kg/ha, compared to 105 kg/ha last year. Phosphorous application also decreased by 3% to 17 kg/ha, potassium application decreased by 22% to 9 kg/ha and sulphur decreased by 42% to 18 kg/ha. This compares with last year's average of 18, 12 and 31 kg/ha, respectively.

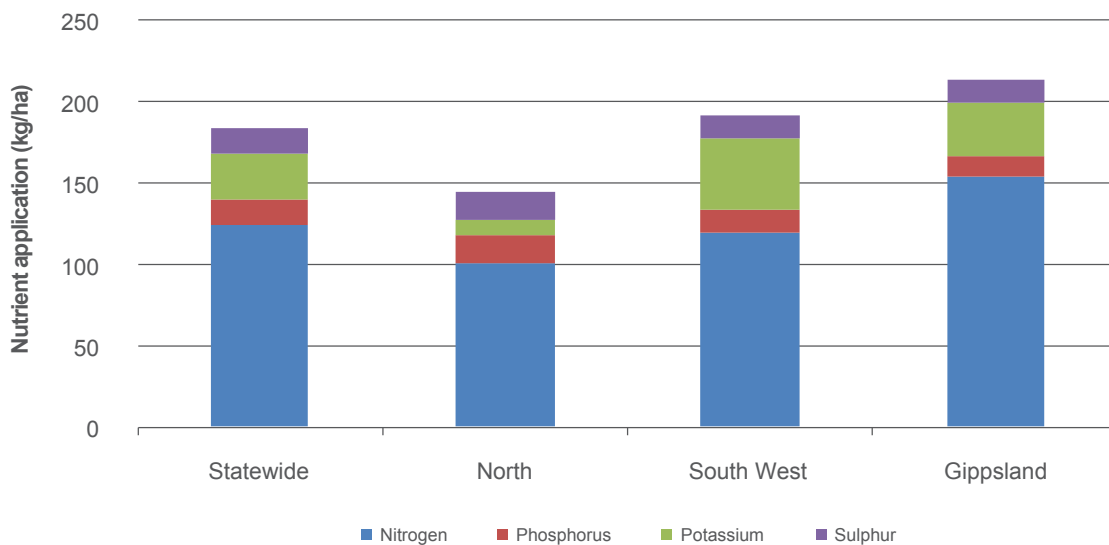
The South West participants also decreased their application of nutrients in 2017-18. Nitrogen was applied at 120 kg/ha compared to 126 kg/ha last year, phosphorous application reduced by 29% to 14 kg/ha compared to 20 kg/ha last year, potassium application increased to 43 kg/ha from 39 kg/ha applied last year, and sulphur reduced to 14 kg/ha from last year when 23 kg/ha sulphur was applied.

Gippsland farms on average increased their nutrient application, going against the trend of the other two regions. Gippsland participants once again used the most nitrogen of the three regions in 2017-18, applying 154 kg/ha nitrogen, 12 kg/ha of phosphorous, 32 kg/ha of potassium and 15 kg/ha sulphur. Gippsland was the only region to increase the application of phosphorous, potassium and sulphur this year by 2% (from 12 kg/ha), 20% (from 27 kg/ha) and 15% (from 13 kg/ha) for each nutrient respectively.

It should be noted that water availability, pasture species, soil type, pasture management, seasonal variation in response rates to fertilisers, amount of (and nutrient composition of) imported feeds, variations in long-term fertiliser strategies plus other factors will all influence pasture growth and fertiliser application strategies. These particular strategies are not captured as part of this project.

Appendix Table 2 provides further information on nutrient application for participant farms in each region.

FIGURE 9. NUTRIENT APPLICATION PER HECTARE



Milk production

All three regions produced the greatest amount of milk during the spring period (Figure 10), however each region had its own unique milk production distribution.

The South West has an extended autumn to spring milk production peak period, where historically a double peak would have occurred in autumn and spring. Over 60% of milk production occurred between July and December. Winter milk comprised 30% of annual milk production, spring milk 32%, summer 21% and 17% for autumn, a reduction in autumn milk evident in the region this year.

The North milk production shows a double peak occurring in 2017-18 in spring and then again in autumn. Winter milk comprised 20% of annual production, spring milk 30%, summer 25% and autumn 25%.

Gippsland shows strong seasonal supply in spring, maintaining the tradition of milk production when there is normally a greater abundance of home grown feed. More than 34% of milk was produced during spring, 27% in summer, 22% in autumn and 17% in winter.

Calving pattern

Typically, calving patterns followed a similar trend to the milk production curve, with milk production peaks occurring two or so months after the calving peak. This can be seen for all regions in Figures 10 and 11.

In 2017-18, a stronger relationship was seen between the shift in calving patterns in the regions and the supply of milk.

The South West appeared to have a stronger single calving period resulting in the extended single milk production peak seen in Figure 10.

The North exhibited two peaks for milk production in Figure 10 and this was matched by two key calving periods as shown in Figure 11.

Gippsland once again had a strong winter calving period which was matched with peak production three months later in spring.

FIGURE 10. MONTHLY DISTRIBUTION OF MILK PRODUCTION

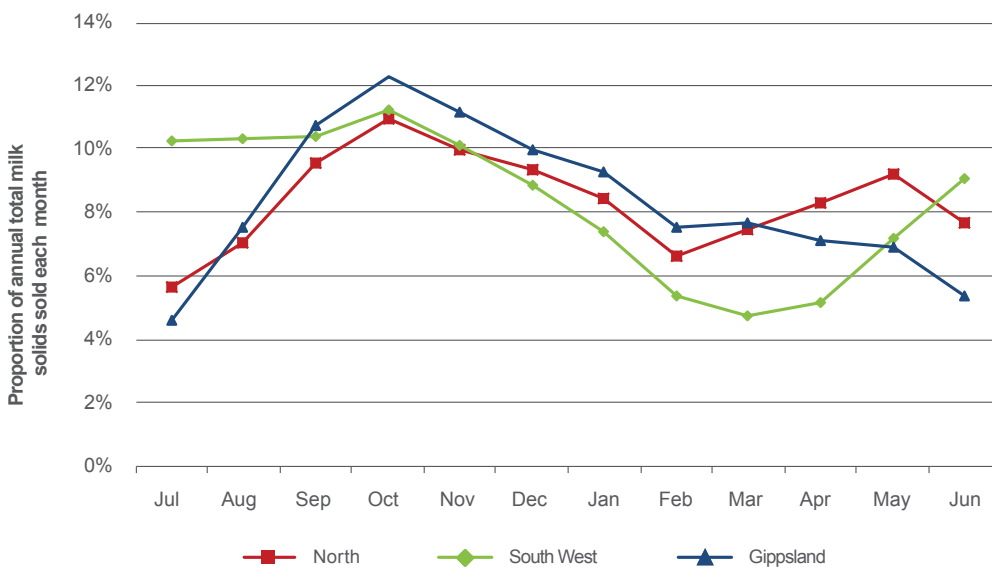
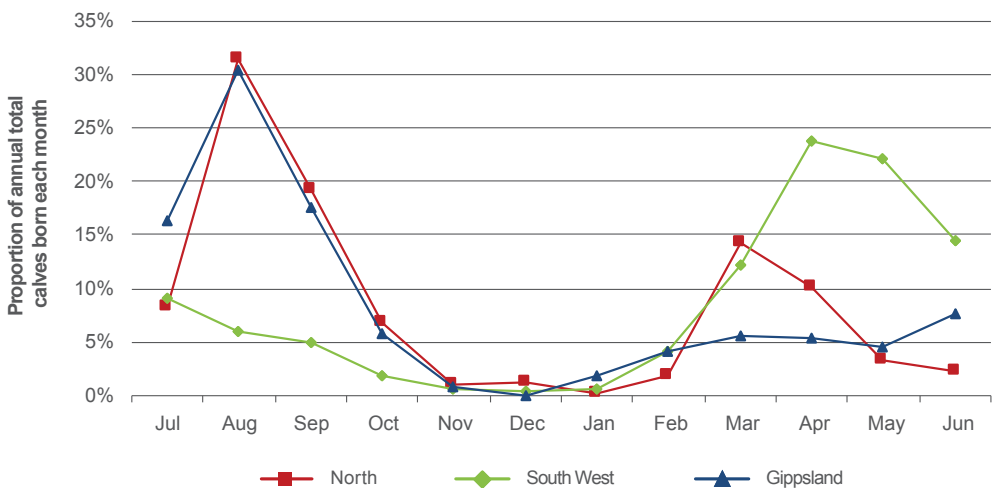


FIGURE 11. MONTHLY DISTRIBUTION OF CALVING



Part Two: The North



The North

Six new farms to the Dairy Farm Monitor Project this year are NO0069, NO0070, NO0071, NO0072, NO0073 and NO0074.

2017-18 seasonal conditions

While the season presented challenges for farmers in the North, it was a better season in 2017-18 than the previous year with good pasture growth, higher milk production and improved milk price. The conditions turned hot heading into summer, and autumn. On average farms used more irrigation allocations, purchased additional feed and utilised their fodder reserves. Those farmers who acted early in the season were rewarded, applying irrigation water to manage through the dry, hot summer and autumn periods. By the end of the season, irrigators had received 100% allocation of their high reliability water shares and median price of temporary (allocation) water was \$110/ML.

The 2017-18 rainfall in the North was patchy, and the total reached 448 mm compared to the long-term average of 488 mm, or 92% of the long-term average (Figure 12). However, the timing of the rainfall events was skewed when approximately 107 mm of rain (24% of the annual total) fell in December which was not effective for pasture growth. Rainfall from January to April was 40% of the long-term average for the same period. This year's total annual rainfall was 26% lower than in 2016-17.

Allocation of high reliability water share reached 100% by December in all systems. Irrigators in the Broken, Campaspe and Bullarook systems also received allocation for their low reliability water share. The price of water increased steadily with a median price of \$80/ML in February to as high as \$170/ML in June. Maximum prices were \$193/ML and \$253/ML, respectively. The spot price of temporary water increased considerably towards the end of the season, impacting those farmers who entered the market later.

Sowing of annual pasture started early in February and March with very good pasture growth for those who prepared early. Autumn was warm and rainfall was 46% of long-term average.

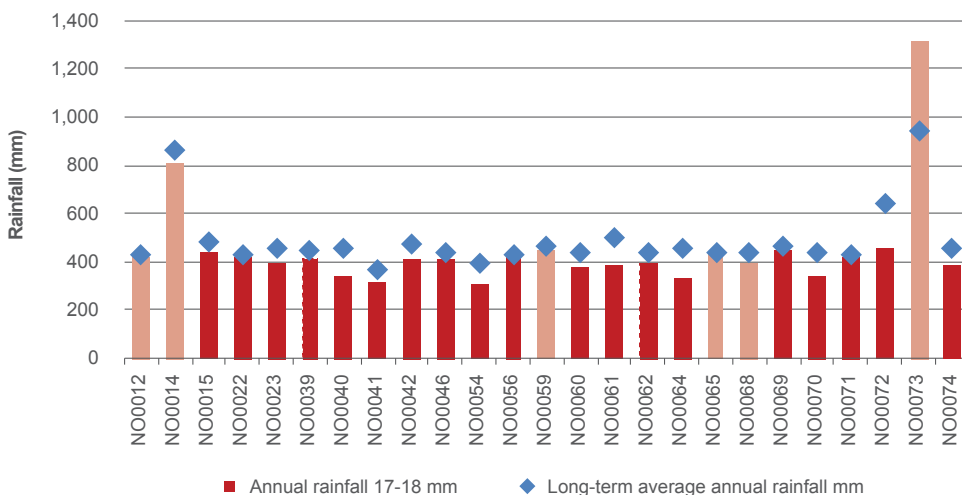
Data from Dairy Australia show that in 2017-18, milk production in northern Victoria was up 8% compared to 2016-17 at 1.89 million litres representing 32% of the State's milk volume. The higher milk production across all farms in northern Victoria was reflected in the average milk production of DFMP farms in the North increasing from 499 kg MS/cow to 540 kg MS/cow as cows performed well during the year. Across the year, milk production was good in spring and picked-up again in autumn. Animal health was generally good, an improvement on the animal health issues experienced the previous year.

While cows performed well, feed budgets underestimated the feed required this year, and additional fodder and irrigation allocations were required. Market prices increased, and farmers paid a lot more for hay and water towards the end of the season.

Heading into the coming months, farmers identified the challenging 2018-19 seasonal conditions as an important issue to manage, with a forecast of drier than normal spring.

* Top 25% - The top 25% are shown as the lighter bars in all graphs as ranked by RoTA.

FIGURE 12. 2017-18 ANNUAL RAINFALL AND LONG-TERM AVERAGE RAINFALL – NORTH



Whole Farm Analysis

Despite the better season compared to last year, there were still challenges – water became expensive towards the end of the season, feed budgets were underestimated, and farmers purchased more feed than usual. The improvement in milk prices helped lift farm profits and compensated for the increased costs.

Key whole farm physical parameters for the North are presented below in Table 4. The Q1 – Q3 range shows the band in which the middle 50% of farms sit for each parameter.

The number of milkers per farm rose by 4% and the average usable area also increased, resulting to a lower stocking rate this year. The average home-grown feed as percentage of ME consumed was similar at 59% compared to 58% in 2016-17 (Table 4).

The performance of the top 25% of participants in the North was partially driven by high proportion of home grown feed as percentage of ME. They had greater proportion of home grown feed as % of ME consumed at 65% compared to the regional average.

The higher percentage of home grown feed used by the top 25% is not reflected in the total water use of these farms, which was lower than the regional average. Irrigation water use for the top performing farms was 991 ML/farm (6.2ML/irrigated ha), 11% lower than compared to the regional average of 1,118 ML/farm or 6.3 ML/irrigated ha).

The top performing group were more efficient in their use of labour in number of milking cows/FTE than the average and had greater milk production per cow. They received 4% more for their milk (\$/kg MS) and their variable costs were 12% lower than the regional average. The top performing farms also had lower average production per hectare and a lower stocking rate relative to all participants in the region.

TABLE 4. FARM PHYSICAL DATA – NORTH

Farm Physical Parameters	North average	Q1 to Q3 range	Top 25% average
Annual rainfall 2017-18 (mm)	448	383 - 435	636
Total water use efficiency (t DM/100mm/ha)	0.7	0.7 - 0.8	0.7
Total usable area (hectares)	269	162 - 295	360
Milking cows per usable area (cows/ha)	1.6	1.2 - 2.0	1.5
Milk sold (kg MS/cow)	535	512 - 582	546
Milk sold (kg MS/ha)	838	607 - 966	809
Home grown feed as % of ME consumed	59%	53% - 64%	65%
Labour efficiency (cows/FTE)	106	87 - 115	122
Labour efficiency (kg MS/FTE)	55,679	45,620 - 63,630	63,511

Gross farm income

Average milk solids sold per cow and per hectare increased slightly compared to the regional average last year (Table 4 and Figure 13).

This year's range was 486 kg MS/ha to 1,567 kg MS/ha (Figure 13), with a much higher minimum production, but lower maximum production than in 2016-17 (246 kg MS/ha and 1,604 kg MS/ha, respectively). The spread of milk production (1,081 kg MS/ha) was midway 597 kg MS/ha for the South West and 1,753 kg MS/ha for Gippsland.

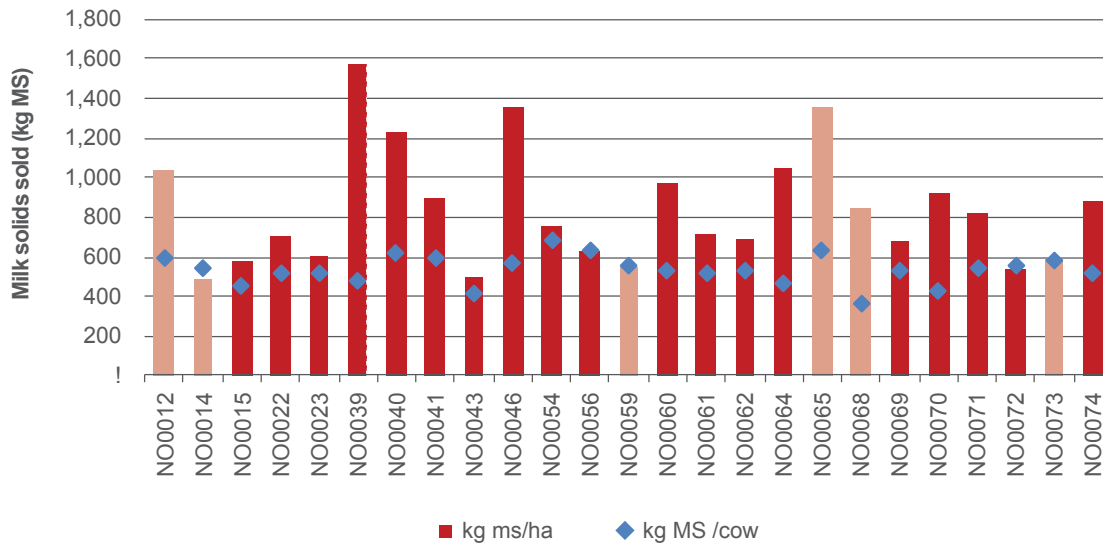
On a per cow basis, the average milk solids sold was 535 kg MS/cow, a 7% improvement from last year's results

of 499 kg MS/cow. Production increases were notable in October (17%), May (15%) and January (13%) compared to the same months last year.

The top 25% of farms registered an increase in milk solids sold per cow and per ha compared to last year's top farms by 11% and 22%, respectively. Compared to the average of all participant farms they sold slightly more milk solids per cow (2% higher) but 3% lower milk solids per hectare.

Figure 13 also shows the variation in production systems. Some farmers had higher production per cow while others had higher milk solids per hectare.

FIGURE 13. MILK SOLIDS SOLD – NORTH



Milk solids sold

Gross farm income includes milk sales net of levies and charges, livestock trading profit and other farm income.

In 2017-18 the average gross farm income of \$6.55/kg MS comprised of milk income (\$5.87/kg MS), livestock trading profit (\$0.62/kg MS) and other income (\$0.05/kg MS).

Figure 14 shows a range in average gross farm income of between \$5.96/kg MS and \$7.37/kg MS. Farmers took advantage of favourable livestock prices and increased profit from livestock trading per farm. However, the increase in milk production diluted the rise in livestock

trading profit per kilogram milk solids, resulting to similar profit of \$0.62/kg MS as last year (\$0.63/kg MS). In 2015-16, income from livestock trading was \$0.58/kg MS.

The average milk price received (\$5.87/kg MS) was 14% higher than last year and 8% higher than in 2015-16. The top 25% of farms received \$6.12/kg MS this year compared to \$5.36/kg MS in 2016-17. Milk price received is one of several factors that determines the top performing farms.

Table 5 shows the average financial performance of participant farms in the North.

FIGURE 14. GROSS FARM INCOME PER KILOGRAM OF MILK SOLIDS – NORTH

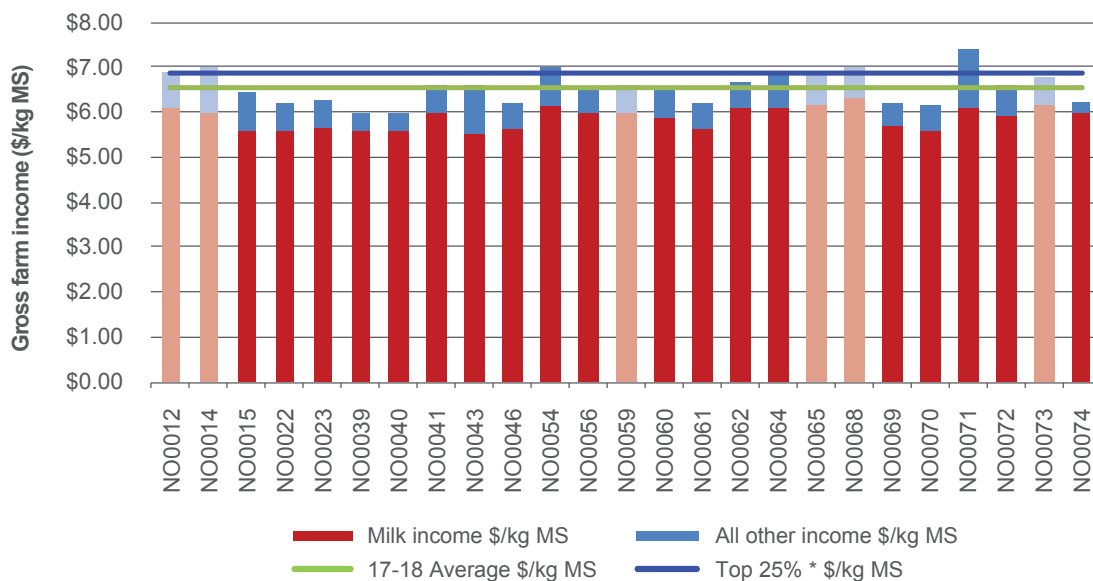


TABLE 5. AVERAGE FARM FINANCIAL PERFORMANCE PER KILOGRAM OF MILK SOLIDS – NORTH

Farm income and cost category	North average	Q1 to Q3 range	Top 25% average
INCOME			
Milk income (net)	\$5.87	\$5.62 - \$6.08	\$6.12
Livestock trading profit	\$0.62	\$0.50 - \$0.67	\$0.69
Other farm income	\$0.05	\$0.00 - \$0.08	\$0.05
Gross farm income	\$6.55	\$6.24 - \$6.75	\$6.86
VARIABLE COSTS			
Herd cost	\$0.34	\$0.28 - \$0.39	\$0.33
Shed cost	\$0.20	\$0.17 - \$0.22	\$0.21
Home grown feed cost	\$1.24	\$1.00 - \$1.51	\$1.14
Purchased feed and agistment	\$1.82	\$1.49 - \$2.18	\$1.71
Feed inventory change	\$0.03	-\$0.11 - \$0.13	-\$0.11
Water inventory change	\$0.11	\$0.01 - \$0.19	\$0.09
Total feed costs	\$3.21	\$2.96 - \$3.53	\$2.84
Total variable costs	\$3.75	\$3.48 - \$4.11	\$3.37
GROSS MARGIN			
Per kilogram of milk solids	\$2.79	\$2.43 - \$3.04	\$3.48
OVERHEAD COSTS			
Employed labour	\$0.53	\$0.31 - \$0.68	\$0.71
Repairs and maintenance	\$0.34	\$0.26 - \$0.40	\$0.31
All other overheads	\$0.26	\$0.18 - \$0.30	\$0.21
Imputed labour	\$0.79	\$0.47 - \$1.02	\$0.40
Depreciation	\$0.22	\$0.16 - \$0.25	\$0.24
Total overhead costs	\$2.14	\$1.85 - \$2.32	\$1.87
Variable and overhead costs	\$5.89	\$5.50 - \$6.31	\$5.24
EARNINGS BEFORE INTEREST AND TAX			
per kilogram of milk solids	\$0.65	\$0.23 - \$1.24	\$1.61

Variable costs

Variable costs (shown as the blue bars in Figure 15) are all costs that vary with the size of production in the enterprise e.g. herd, shed and feed costs (including feed and water inventory changes).

The average variable cost was \$3.75/kg MS with a range of \$2.75/kg MS to \$4.84/kg MS for participant farms in the North. This is 12% higher than in 2016-17 due to an increase in feed costs brought about by higher feed and water inventory costs. Herd and shed costs were similar to last year at \$0.34/kg MS and \$0.20/kg MS, respectively.

Feed costs were the most significant variable cost items, accounting for 86% of the average variable cost in 2017-18. The average feed cost was \$3.21/kg MS with a range of between \$2.29/kg MS and \$4.08/kg MS. It is 14% higher than last year's cost of \$2.81/kg MS. On average, feed inventory decreased as farmers used up their 2016-17 conserved feed.

On a per farm basis, the costs of home grown and purchased feed rose, however, these costs were spread over higher milk production resulting to a lower cost per kilogram milk solids.

The cost of home-grown feed (\$1.24/kg MS) was 8% lower mainly due to a decrease in the cost of hay and silage making and irrigation cost per kg MS. The cost of irrigation and volume of applied water per farm increased but these were offset by an increase in milk production. The costs of fertiliser, fuel and oil, and pasture improvement and cropping increased from last year.

Purchased feed and agistment costs contributed 57% to the total feed cost. The average cost was the same as last year at \$1.82/kg MS. The rise in the cost of grains, concentrates and other feed was offset by reductions in the cost of fodder purchases, agistment and other feed costs. The cost of concentrate feed increased due to higher prices rather than increase in the amount of feed fed.

The top 25% of farms incurred variable costs of \$3.37/kg MS, 10% lower than the average but 14% higher than last year's top performers. They spent 12% less on feed, 4% less on herd costs and 2% higher on shed costs than the average of all participant farms. Similar to 2016-17, they were able to conserve feed this year.

Overhead costs

Overhead costs are 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 non-cash costs such as imputed owner-operator labour, family labour and depreciation of plant and equipment. Average overhead costs this year ranged from \$1.45/kg MS to \$3.15/kg MS (shown as red bars in Figure 15).

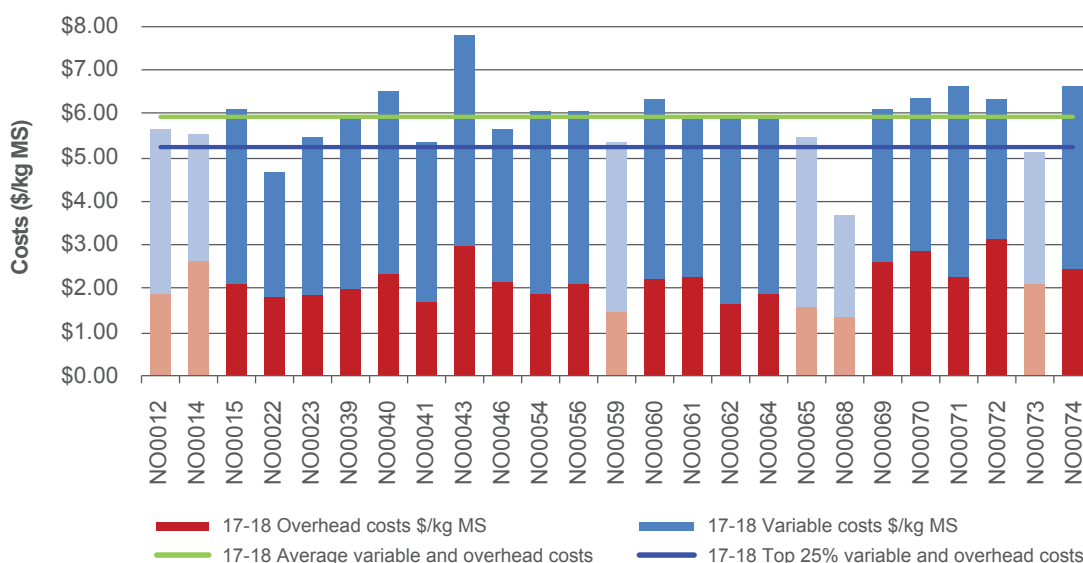
The average overhead costs for 2017-18 were \$2.14/kg MS, same as last year. Labour costs accounted for 62% of the overhead cost (70% in 2016-17). These costs were similar to last year with employed labour remaining static and

imputed labour cost increased marginally (1% higher) due to an increase in the standard hourly rate for imputed labour.

The top performing farms incurred lower imputed labour costs, but their employed labour costs were higher than the average of all participant farms.

The average total labour units were 3.6 full time equivalents (FTE), with owner operator contributing 1.6 FTE/farm, the same as in 2016-17. Employed labour was 2 FTE/farm, slightly higher than last year which was 1.9 FTE/farm.

FIGURE 15. WHOLE FARM VARIABLE AND OVERHEAD COSTS PER KILOGRAM OF MILK SOLIDS – NORTH



Cost of production

Cost of production gives an indication of the cost of producing a kilogram of milk solids. It is calculated as variable plus overhead costs and accounts for changes in fodder and livestock inventory.

Table 6 shows that the top performing group had a 13% lower cost of production with inventory change (\$4.97/kg MS) than the average of all farms (\$5.69/kg MS). This was smaller than last year's difference of 22% between the

average and the top 25% suggesting that there are many farms in the sample with low cost of production who are not in the top performing group.

For the top group, the contribution to their cost of production was a lower cash costs of production than the average of all participant farms; they did not use up their feed inventory and they had greater livestock inventory change.

TABLE 6. COST OF PRODUCTION – NORTH

Farm costs (\$/kg MS)	North average	Q1 to Q3 range	Top 25% average
Cash cost of production (\$/kg MS)	\$4.74	\$4.47 - \$5.03	\$4.62
Cost of production without inventory changes (\$/kg MS)	\$5.75	\$5.43 - \$6.20	\$5.26
INVENTORY CHANGE			
+/- feed and water inventory change	\$0.15	\$0.05 - \$0.29	-\$0.01
+/- livestock inventory change minus purchases	-\$0.20	-\$0.27 - -\$0.04	-\$0.28
Cost of production with inventory change (\$/kg MS)	\$5.69	\$5.23 - \$6.08	\$4.97

Earnings before interest and tax

Gross farm income minus total variable and total overhead costs is EBIT.

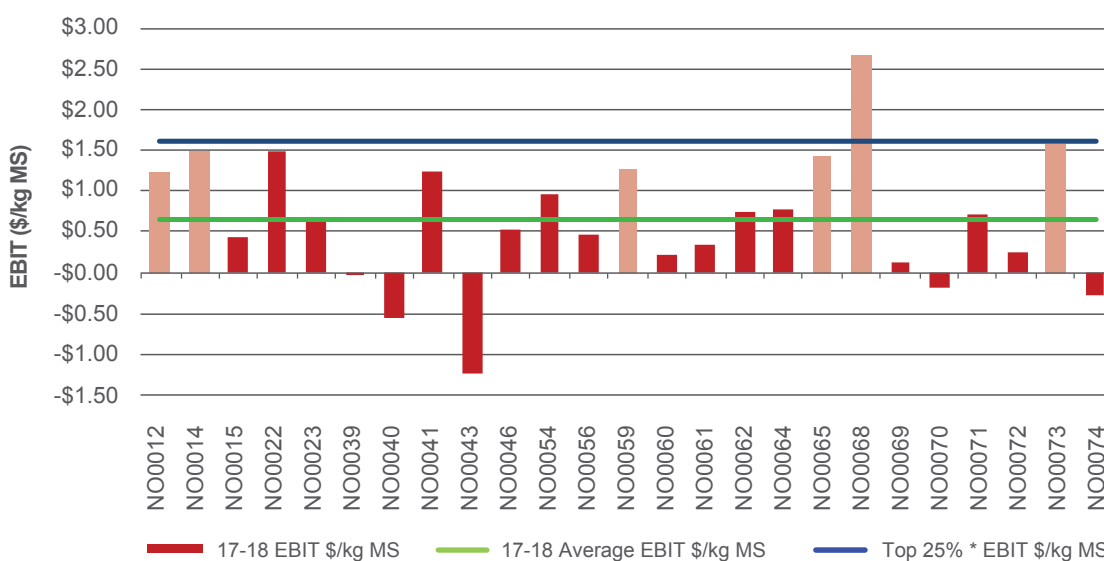
Average EBIT increased substantially, from \$0.37/kg MS in 2016-17 to \$0.65/kg MS this year with a range of between negative \$1.21/kg MS and \$3.16/kg MS (Figure 16). This range was wider than in 2016-17 (negative \$1.43/kg MS to \$2.27/kg MS).

Twenty of the 25 farms recorded a positive EBIT compared to 19 in 2016-17 and 14 in 2015-16.

The EBIT of \$1.61/kg MS of the top 25% was significantly higher than the regional average (\$0.65/kg MS) due to their slightly higher milk price (4% higher) and 11% lower variable and overhead costs. The performance of the top farms highlighted the strength of well-run businesses in the region.

The management ability of farmers is also a crucial contributing factor to strong performance which is not presented in these financial data. The timing of management decisions and a focus on two or three critical factors that contribute most to profit were some of the characteristics of the top performing farmers.

FIGURE 16. WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER KILOGRAM OF MILK SOLIDS – NORTH



Return on total assets and equity

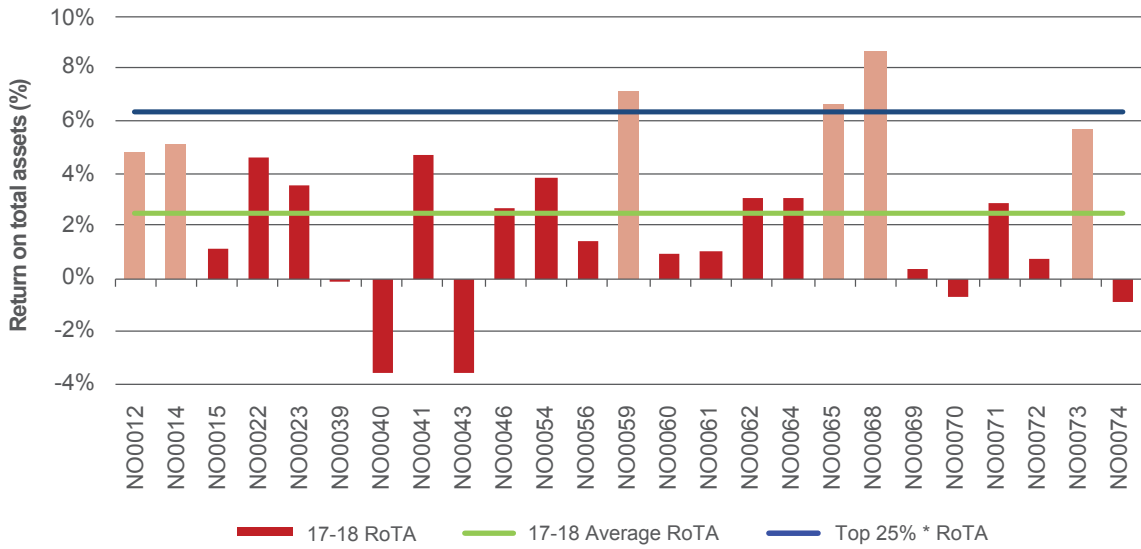
The return from total assets under management, including owned and leased assets, is RoTA. It is calculated as EBIT divided by total assets.

Figure 17 shows that the average RoTA of participant farms in the North was 2.5%, much higher than the last two years (1.0% in 2016-17 and negative 0.1% in 2015-16). The improved RoTA in 2017-18 was influenced by the 14% higher milk price which compensated the rise in costs.

The range in participant performance narrowed compared to last year, where RoTA was negative 8.9% to 8.3% in 2016-17, and negative 3.6% to 8.6% in 2017-18. The highest performing individual farm was NO0068 in both years. Of the same 19 farms participating between years, 17 farms performed better in 2017-18 compared to the previous year.

The average of the top 25% farms was 6.3%, also higher than the last two years (5.2% in 2016-17 and 4.6% in 2015-16).

FIGURE 17. RETURN ON TOTAL ASSETS – NORTH



A measure of the owner’s rate of return on their own capital investment in the business is RoE.

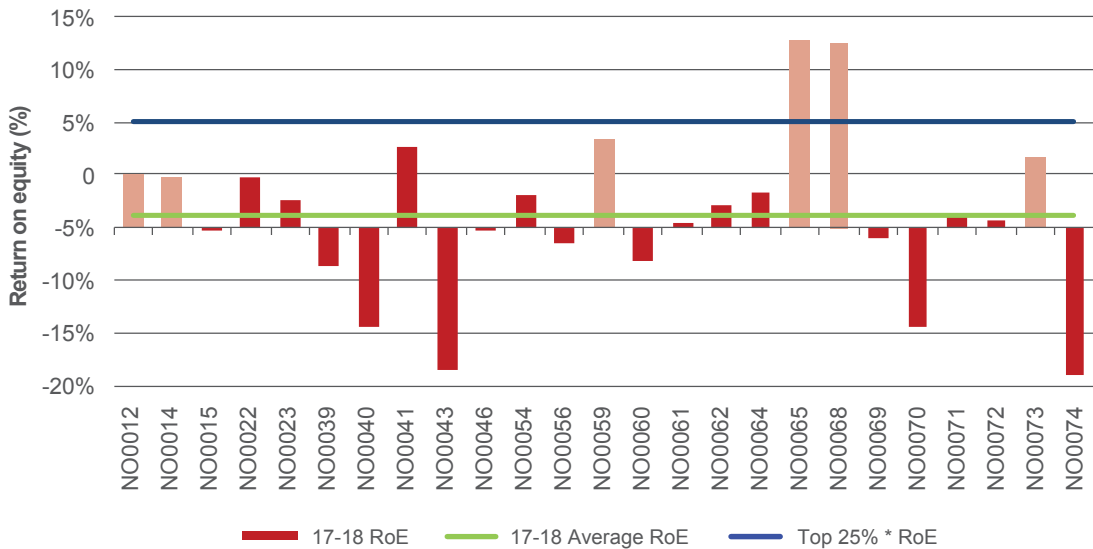
This year’s average RoE was a great improvement on the last two years when RoE was below 0%. The average RoE of all participant farms recovered from negative 4.4% in 2015-16; negative 2.0% in 2016-17 to 1.2% this year (Figure 18).

There was a wide range in RoE reflecting the various capital structures of businesses in Northern Victoria.

This year the top 25% performers achieved an average RoE of 10%.

Of the 25 North farms, 80% recorded a positive RoTA, but only 60% achieved a positive RoE. Nine farms this year had RoE higher than their RoTA compared to three farms in 2016-17 and two farms in 2015-16. This shows that most participant farmers received lower rate of returns from the additional assets than the interest and/or lease rate.

FIGURE 18. RETURN ON EQUITY – NORTH



Feed consumption and fertiliser

Farms in the North used a wide range of feeding systems. Directly grazed pasture accounted for an average of 46% of total ME consumed. The average fertiliser use was 147 kg/ha comprised mainly of nitrogen fertiliser.

Feed consumption

The relative contribution of each feed type to the ME consumption on each farm is shown in Figure 19. The broad range of different sources of ME used on individual farms is evident. Grazed pasture supplied 50% or more of ME consumed on only seven of the 25 farms, the same proportion as last year.

It should be noted that the estimates of pasture consumption data are now calculated through DairyBase and not the previously used DEDJTR pasture calculations, so there may be small differences.

There was a wide variation in the proportion of concentrates contributing to the total ME consumed with

a range of 6% to 49% compared to 8% to 54% last year. All participant farms fed hay as part of the ME consumed with a range of 3% to 26%. Two of the 25 participants did not feed silage and five farms fed silage at more than 15% of ME consumed. On average, silage accounted for up to 9% of ME consumed.

The top performers sourced an average of 54% of the ME consumed from grazed pasture, similar to last year's 51%.

'Other' feed included sources that were not commonly used by or generally available to dairy farmers, such as almond hulls and brewer's grain. Two farms fed their stock 'other feed' as a source of ME consumed.

FIGURE 19. SOURCES OF WHOLE FARM METABOLISABLE ENERGY – NORTH

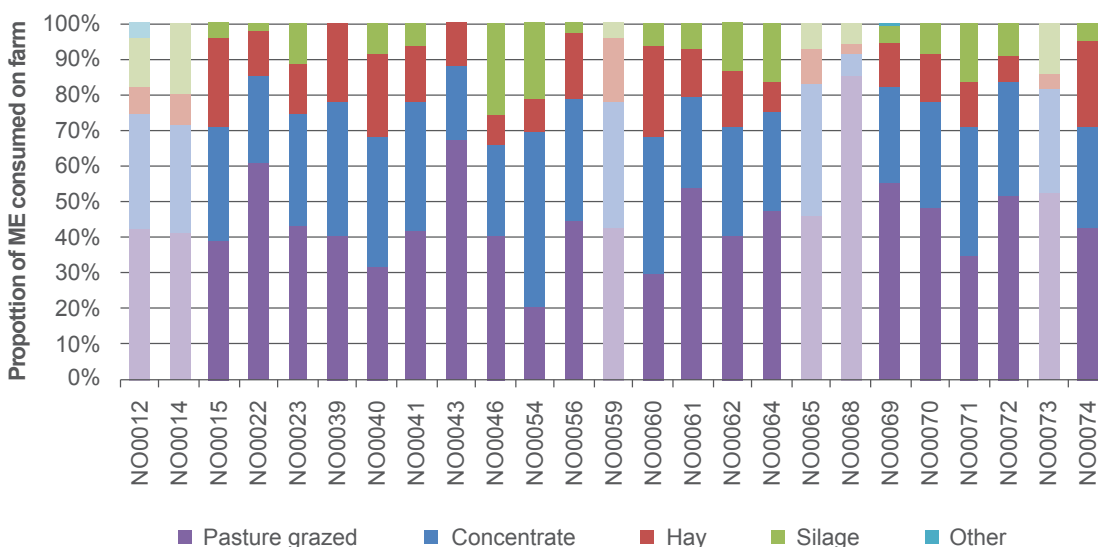


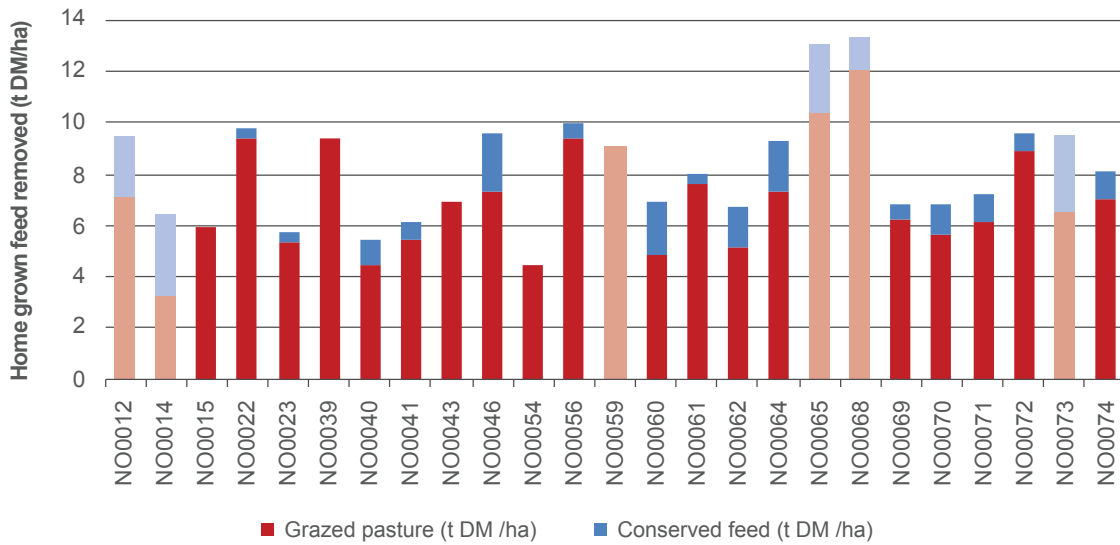
Figure 20 shows the estimated home grown feed consumed per milking hectare for farms in the North.

Good spring and autumn pasture growth provided most farmers with much needed home-grown feed. These conditions resulted to higher amounts of pasture harvested compared with last year. Average pasture harvested on the milking area (grazed and conserved) increased by 9% to 8.2 t DM/ha this year, from 7.5 t DM/ha in 2016-17. There was a small increase in grazed pasture available (3% higher) and higher quantities of fodder conserved (1.1 t DM/ha this year from 0.7 t DM/ha last year).

Most farms (80%) conserved feed on the milking area compared to 15 farms in 2016-17 and 21 farms in 2015-16.

Potential sources of error in the method used to calculate home grown pasture consumed may come from the incorrect estimation of liveweight, amounts of fodder and concentrates fed, ME concentration of fodder, concentrate and pasture, wastage of feed and associative effects between feeds when they are digested by the animal. Comparing pasture consumption estimated using the back-calculation method between farms can lead to incorrect conclusions and a more useful approach is to compare pasture consumption on the same farm over time using the same method of estimation. Note that the estimate of pasture consumption calculation was made using a different calculation this year and caution should be taken when comparing results between years.

FIGURE 20. ESTIMATED TONNES OF HOME GROWN FEED REMOVED PER MILKING HECTARE – NORTH



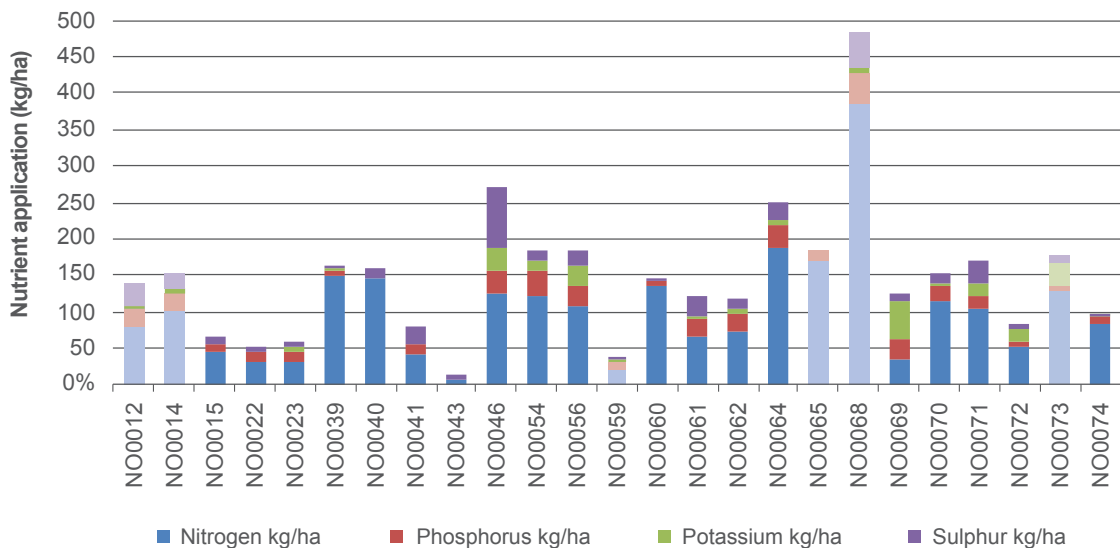
Fertiliser application

All farms in the North applied fertiliser to their crops and pasture (Figure 21). The average fertiliser application was 147 kg/ha compared to 166 kg/ha in 2016-17 and 128 kg/ha in 2015-16. Fertiliser usage was lower across all nutrients; nitrogen and phosphorus use both decreased by 4%; potassium by 19% and sulphur by 42%.

Average nitrogen use was 102 kg/ha; phosphorus was 17 kg/ha; potassium was 9 kg/ha and sulphur at 18 kg/ha.

Although there was an increase in home grown feed consumed, fertiliser usage was lower than last year. This highlights that other factors also impact upon pasture growth and consumption, such as grazing strategies and timing of rainfall, and irrigation scheduling. The values for Figure 20 and 21 can be found in Appendix Table B2.

FIGURE 21. NUTRIENT APPLICATION PER USABLE HECTARE – NORTH



Part Three: **The South West**



The South West

There was one new farm in 2017-18 South West sample: SW0051.

2017-18 seasonal conditions

The South West region experienced extremes in seasonal conditions during the last 12 months. The season started out with an exceptionally wet spring in 2017. Conditions turned dry from November onwards before the autumn rain arrived in May. Over the long, hot dry summer, pasture production was significantly reduced, increasing demand for imported fodder.

On average, farms in the South West received their long-term average annual rainfall in 2017-18 (Figure 22). On balance, farms received rainfall between decile 4 and 7, or average rainfall. However, the timing of the rainfall (Figure 3) shows the most significant rain fell in September and May, with a prolonged dry period over summer.

The season started out with an exceptionally wet spring in 2017, with the region receiving rainfall between decile 8 and 10. This limited milk production and hampered quality fodder production. Conditions then turned dry from November onwards resulting in reduced grazed pasture and additional fodder was required to supplement the dairy herd diets.

When the autumn rain arrived in May, some farmers found their pastures had died due to the lack of moisture. Farmers re-sowed their pastures; however, they had not reached full production before colder temperatures arrived heading into winter.

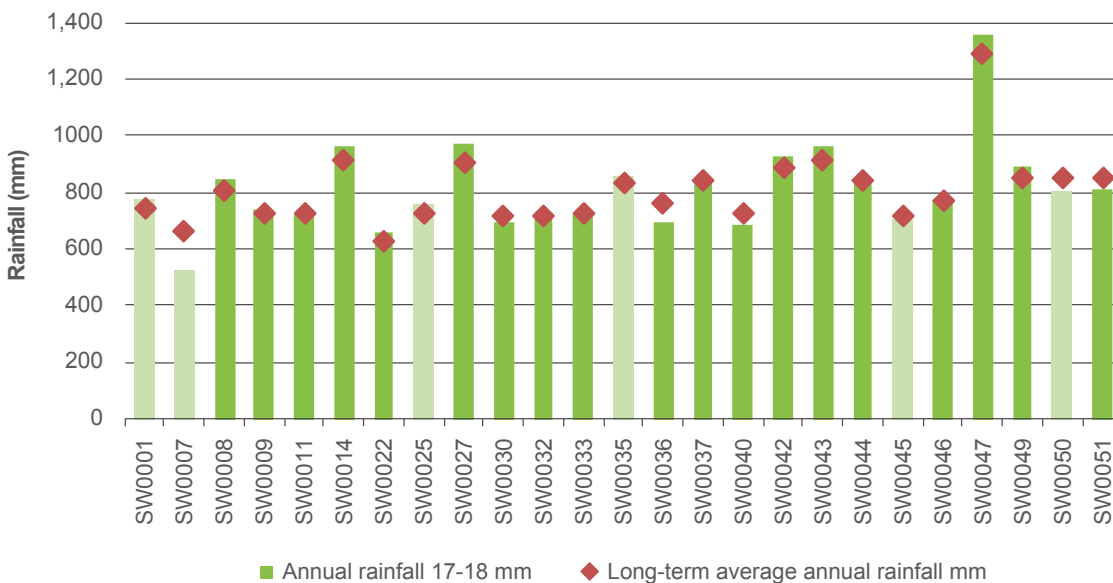
Pasture growth was also limited with insect infestations during the year; army worms arrived in November and cockchafers destroyed emerging pastures in April and May, causing some farms to be re-sowed.

Fodder reserves were utilised during the year as farmers fed back the quantities they conserved in spring, as well as their long-term reserves. Additional purchases of fodder were required to manage the dry conditions. At least one farm in the sample entered the purchased fodder market for the first time this year to maintain milk production.

Farms in the region were also impacted by the Barwon-South West fires in March 2018 with burnt pastures, loss of power to dairies or limited milk tanker access through road closures.

* The top 25% are shown as the lighter bars in all graphs as ranked by RoTA.

FIGURE 22. 2017-18 ANNUAL RAINFALL AND LONG-TERM AVERAGE RAINFALL – SOUTH WEST



Whole Farm Analysis

Lower farm profits in 2017-18 were the result of a significant increase in feed costs, despite an improvement in milk price compared to the previous year. Average EBIT and RoTA fell 60% compared to the previous year highlighting the influence of the dry conditions.

Key whole farm physical parameters for the South West are presented below in Table 7. The Q1 – Q3 range shows the band in which the middle 50% of farms sit for each parameter.

There was only one new entrant to the South West sample this year. On average farms maintained their herd and farm size compared to the previous year. Table 7 shows the average usable area and milking cows per hectare was 333 ha and 1.1 cows/ha respectively, almost identical to last year.

The dry seasonal conditions led to a greater proportion of the diet sourced from purchased feeds. This was reflected in the home grown feed as a proportion of ME consumed reducing from 67% last year to 62% this year.

Farms in the top 25% group (ranked according to RoTA) had higher milk production measured per cow and per hectare, and higher labour efficiency, based on cows/FTE and kg MS/FTE, compared to the average yet received lower annual rainfall.

TABLE 6. FARM PHYSICAL DATA – SOUTH WEST

Farm Physical Parameters	South West average	Q1 to Q3 range	Top 25% average
Annual rainfall 2017-18 (mm)	811	721 - 856	737
Total water use efficiency (t DM/100mm/ha)	0.6	0.5 - 0.7	0.8
Total usable area (hectares)	333	165 - 451	331
Milking cows per usable area (cows/ha)	1.1	0.9 - 1.3	1.1
Milk sold (kg MS/cow)	502	469 - 545	538
Milk sold (kg MS/ha)	569	494 - 652	586
Home grown feed as % of ME consumed	62%	55% - 69%	61%
Labour efficiency (cows/FTE)	100	84 - 112	103
Labour efficiency (kg MS/FTE)	50,292	40,444 - 57,889	56,484

Milk solids sold

On average total milk solids sold remained unchanged at 196,000 kg MS from the previous year. Over 60% of milk production occurred during the six months between July and December, with a peak of 21,365 kg MS per farm in October (Figure 10). This extended autumn to spring milk production peak period was a change to the double peak which would have occurred in autumn and spring historically.

On a per hectare and per cow basis, milk production decreased 4% on average. Milk production per hectare decreased from 595 kg MS/ha to 569 kg MS/ha, with half of the participants producing less milk than they did the previous year (Figure 23). Milk production per cow decreased from 525 to 502 kg MS/cow, with 15 of the 24 (60%) farms participating between years producing less milk this year.

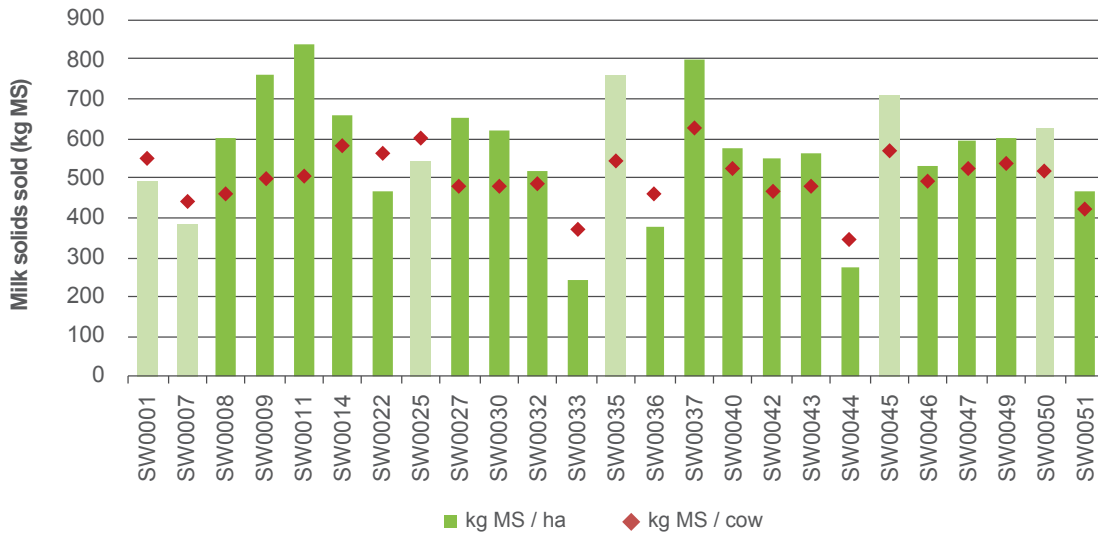
The top performing group produced more milk than the average, however it was less than the top performing group last year. Milk production for this group in 2017-18

was 538 kg MS/cow and 586 kg MS/ha (Table 7). Last year the results were 554 kg MS/cow and 690 kg MS/ha. For the top performing group, the distribution of the milk through the year was lower during summer and peaked earlier than the average, with a greater proportion of milk produced in May and June (19% compared with 16%).

The top 25% group had a lower average stocking rate this year, falling from 1.3 cows/ha in 2016-17 to 1.1 cows/ha this year. The lower stocking rate and reduced per cow production helps explain the lower milk production for this group this year.

However, using these technical ratios to analyse management decisions can lead to logically opposite conclusions. If a farmer aims to maximise yield per cow, they would have less cows per hectare. If the farmer aims to maximise yield per hectare, they would have more cows per hectare. Depending on economic considerations, either of these measures could be profitable.

FIGURE 23. MILK SOLIDS SOLD – SOUTH WEST



Gross farm income

Gross farm income includes milk sales net of levies and charges, livestock trading profit and other farm income. For South West participants, these were \$5.80/kg MS, \$0.58/kg MS and \$0.04/kg MS, respectively.

Figure 24 shows the milk price received ranged from \$5.20/kg MS to \$6.15/kg MS. On average milk price

increased to \$5.80/kg MS, up from \$5.25/kg MS in 2016-17, and up from \$5.47/kg MS received in 2015-16.

Farms that were in the top 25% in the South West, ranked according to RoTA, received an average milk price of \$6.04/kg MS, compared with 5.43/kg MS last year. Both the average and top performing group recorded a milk price 11% higher than the previous year.

FIGURE 24. GROSS FARM INCOME PER KILOGRAM OF MILK SOLIDS – SOUTH WEST



Variable costs

Variable costs are all costs that vary with the size of production in the enterprise e.g. herd, shed and feed costs (including feed and water inventory changes).

Feed costs were the major variable cost on South West farms, accounting for 49% of total costs this year. Last year, feed costs accounted for 44% of total costs. Feed costs increased 37% to \$2.90/kg MS from the previous year at \$2.14/kg MS. There were major increases across all categories including home grown and purchased feed costs and feed inventory change.

Home grown feed costs increased as farms attempted to grow and harvest as much feed as possible. Some farms re-sowed pastures due lack of moisture and insect infestations (army worms and cockchafters); increasing pasture improvement and cropping costs by 13% up to \$0.18/kg MS in 2017-18. Hay and silage costs also increased, up 11% to \$0.21/kg MS. While less tonnes of fodder were conserved on average across the milking and support areas (786 t DM/farm compared with 845 t DM/farm the previous year), hay and silage costs increased on the back of large expenditure by one farm who was able to take advantage of the spring conditions and conserve large quantities of fodder. Fertiliser costs remained steady at \$0.39/kg MS.

Purchased feed costs also increased as farmers supplemented the dairy herd diet to manage the dry conditions. An increase in the quantities of concentrates, hay and silage were fed, as well as an increase in the value. Concentrates fed were 2.0 t DM/cow, silage was 1.6 t DM/cow and hay was 0.9 t DM/cow. The cost of concentrates increased from \$345/t DM up to \$377/t DM this year. As a result, concentrates purchased increased 18% to \$1.52/kg MS, and fodder purchased increased 64% to \$0.22/kg MS.

The value of feed inventory declined by 2.5 times in 2017-18, increasing to \$0.17/kg MS (cost) as farms utilised their

fodder reserves to manage through the dry conditions, and 23 of the 25 farms had less feed on hand at the end of the year than at the start.

Total herd and shed costs also increased this year to \$0.53/kg MS compared to \$0.45/kg MS last year.

Figure 25 shows the breakdown of total farm costs as variable and overhead costs per kilogram of milk solids. Individual farm breakdown of the costs can be found in Appendix Table C6 & C7.

Overhead costs

Overhead costs are 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 non-cash costs such as imputed owner-operator labour, family labour and depreciation of plant and equipment.

Cash overhead costs increased 17% up to \$1.30/kg MS, with repairs and maintenance and employed labour mainly contributing to the increase this year. Employed labour increased from 1.8 FTE to 2 FTE.

There were also increases in non-cash overheads. While imputed labour (owner/operator and family) was constant at 1.7 FTE the standard value increased \$28/hr to \$30.33/hr to reflect market rates. Depreciation is the other non-cash category which remained constant at \$0.29/kg MS.

Farms in the top performing group had lower overhead costs, compared to the average. While they had half the imputed labour costs, they spent more on employed labour. This is a consistent trend with that reported in the previous year. Farms with the highest RoTA had on average more full time equivalents employed on farm but they were able to produce more kilograms of milk solids per labour unit and therefore had greater labour efficiency (Appendix C7 and Table 7).

FIGURE 25. WHOLE FARM VARIABLE AND OVERHEAD COSTS PER KILOGRAM OF MILK SOLIDS – SOUTH WEST

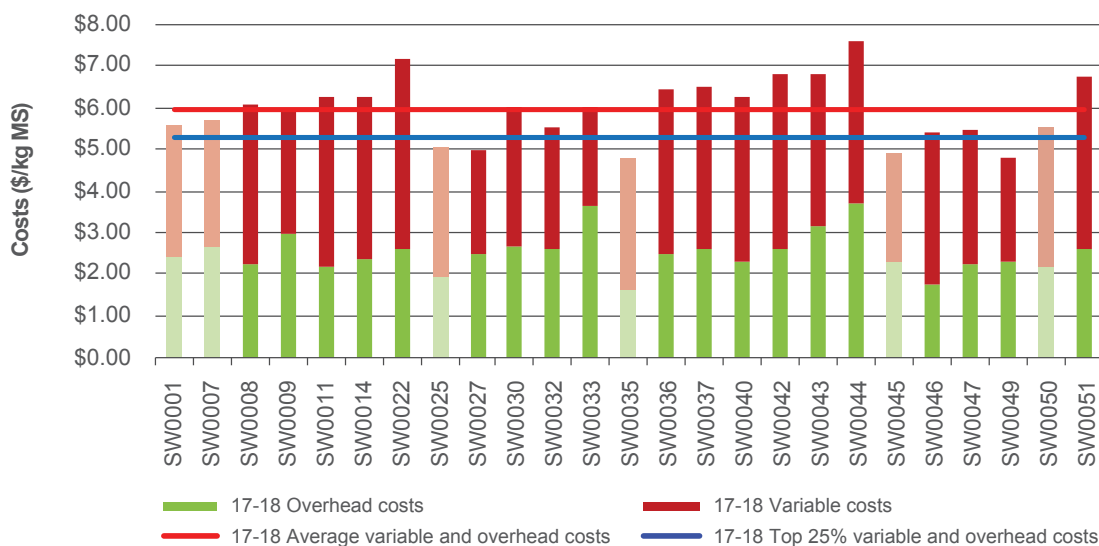


TABLE 8. AVERAGE FARM FINANCIAL PERFORMANCE PER KILOGRAM OF MILK SOLIDS – SOUTH WEST

Farm costs	South West average	Q1 to Q3 range	Top 25% average
INCOME			
Milk income (net)	\$5.80	\$5.56 - \$6.03	\$6.04
Livestock trading profit	\$0.58	\$0.36 - \$0.84	\$0.86
Other farm income	\$0.04	\$0.00 - \$0.04	\$0.09
Gross farm income	\$6.42	\$6.02 - \$6.75	\$6.99
VARIABLE COSTS			
Herd cost	\$0.29	\$0.23 - \$0.33	\$0.28
Shed cost	\$0.24	\$0.20 - \$0.28	\$0.23
Home grown feed cost	\$0.91	\$0.77 - \$1.16	\$0.64
Purchased feed and agistment	\$1.83	\$1.46 - \$2.11	\$1.78
Feed inventory change	\$0.17	\$0.07 - \$0.26	\$0.12
Water inventory change	\$0.00	\$0.00 - \$0.00	\$0.00
Total feed costs	\$2.90	\$2.52 - \$3.40	\$2.54
Total variable costs	\$3.43	\$3.04 - \$3.93	\$3.05
GROSS MARGIN			
per kilogram of milk solids	\$2.99	\$2.46 - \$3.57	\$3.94
OVERHEAD COSTS			
Employed labour	\$0.57	\$0.17 - \$0.79	\$0.78
Repairs and maintenance	\$0.41	\$0.30 - \$0.51	\$0.38
All other overheads	\$0.31	\$0.19 - \$0.39	\$0.28
Imputed labour	\$0.93	\$0.42 - \$1.16	\$0.49
Depreciation	\$0.29	\$0.19 - \$0.37	\$0.28
Total overhead costs	\$2.51	\$2.25 - \$2.63	\$2.21
Variable and overhead costs	\$5.94	\$5.47 - \$6.50	\$5.26
EARNINGS BEFORE INTEREST AND TAX			
per kilogram of milk solids	\$0.48	-\$0.02 - \$1.20	\$1.73

Cost of Production

Cost of production gives an indication of the cost of producing a kilogram of milk solids. It is calculated as variable plus overhead costs and accounts for changes in fodder, water and livestock inventory.

The cost of production with inventory change increased from \$4.76/kg MS last year to \$6.00/kg MS in 2017-18, a 26% increase. The higher cost of production emanated from increases across all categories; cash costs, non-cash costs and inventory decreases.

There was a wide variation in costs with most farms spending between \$5.18/kg MS and \$6.46/kg MS as shown by the Q1 to Q3 range in Table 9.

Where a negative change in inventory occurred, such as \$0.17/kg MS for the average of the South West, it indicates that total fodder reserves have decreased and is therefore counted as an increase to the cost of production. All but two farms in the South West sample utilised their long-term fodder reserves in 2017-18 contributing to the higher cost of production this year.

TABLE 8. AVERAGE FARM FINANCIAL PERFORMANCE PER KILOGRAM OF MILK SOLIDS – SOUTH WEST

Farm costs	South West average	Q1 to Q3 range	Top 25% average
Cash cost of production (\$/kg MS)	\$5.56	\$4.14 - \$5.13	\$4.36
Cost of production without inventory changes (\$/kg MS)	\$5.77	\$5.25 - \$6.31	\$5.14
INVENTORY CHANGE			
+/- feed and water inventory change	\$0.17	\$0.07 - \$0.26	\$0.12
+/- livestock inventory change minus purchases	\$0.06	-\$0.27 - \$0.26	-\$0.17
Cost of production with inventory change (\$/kg MS)	\$6.00	\$5.18 - \$6.37	\$5.09

Earnings before interest and tax

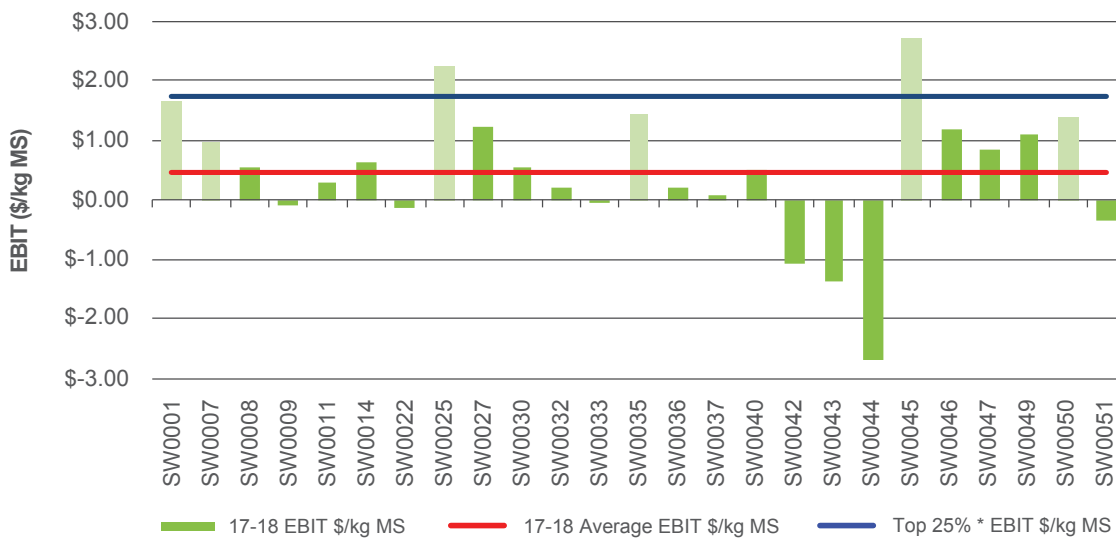
Gross farm income minus total variable and total overhead costs is EBIT.

Average EBIT fell to \$0.48/kg MS, down from \$1.16/kg MS the previous year, and 18 of the 25 farms recorded a positive result (Figure 26). Of the same 24 farms participating between years, five of the farms recorded higher profits than the previous year. Variable costs, in particular the home grown and purchased feed costs, increased to a greater extent than the improvement

in milk price, resulting in decreased profit in 2017-18 on average.

The top performing group recorded an EBIT of \$1.73/kg MS, down from \$1.92/kg MS the previous year. Areas where the top performing group were able to distinguish themselves from the average were a higher milk price, more efficient milk production with higher milk solids sold at lower costs.

FIGURE 26. WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER KILOGRAM OF MILK SOLIDS – SOUTH WEST



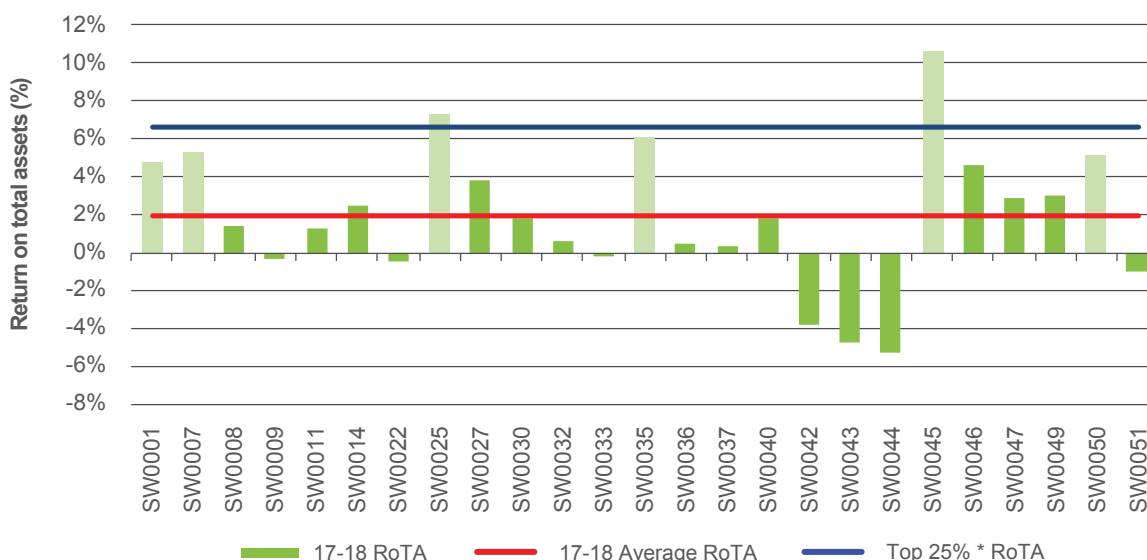
Return on total assets and equity

The return from total assets under management, including owned and leased assets, is RoTA. It is calculated as EBIT divided by total assets.

In 2017-18 the average RoTA decreased to 1.9%, down from 4.2% the previous year (Figure 27). Farms in the top 25% also decreased RoTA to 6.7% from 7.6% in 2016-17. The

lower RoTA recorded by South West participants was due to an EBIT half of that recorded the previous year while a total managed asset value that remained similar to 2016-17 at \$5.86 million.

FIGURE 27. RETURN ON TOTAL ASSETS – SOUTH WEST



A measure of the owner’s rate of return on their own capital investment in the business is RoE.

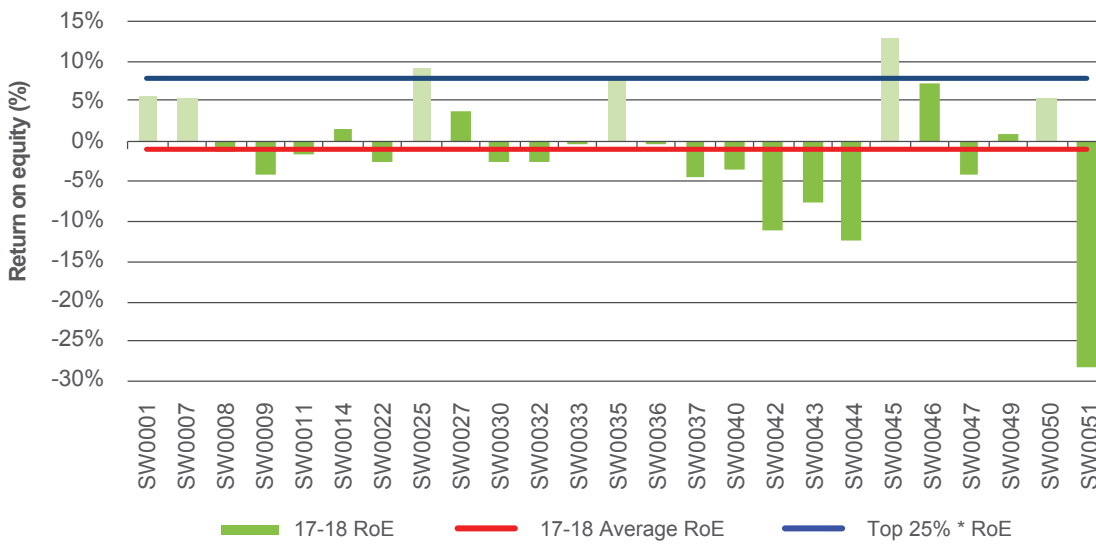
Just over a third of the participants recorded a positive RoE result in 2017-18, with nine of the 25 farms worth more at the end of the year than they were a year ago (Figure 28). Of these farms, six recorded a RoE higher than their RoTA indicating that the return on the additional assets was worth more than the cost of accessing it. These farms have been able to grow their business this year despite the challenging conditions. While they are excellent farm managers, they also received rain at critical periods and were able to conserve fodder, reducing exposure to the purchased fodder market.

The top performing group recorded RoE of 7.7%, down from 11.9% recorded by the top group last year.

However, most farms did not grow their equity with the average RoE decreasing to negative 1.1%, down from 4.2% last year. Average equity remained unchanged at \$3.1 million or 64%, while net farm income halved from the previous year on average. The large negative RoE recorded by SW0051 was a factor of a poor season with little total equity in their business.

Figures 27 and 28 were calculated excluding capital appreciation.

FIGURE 28. RETURN ON EQUITY – SOUTH WEST



Feed consumption and fertiliser

Reflecting the challenging seasonal conditions in 2017-18, South West farms harvested less pasture on the milking area, obtained less ME from directly grazed pasture and decreased the total amount of fertiliser applied on average compared to the previous year.

Feed consumption

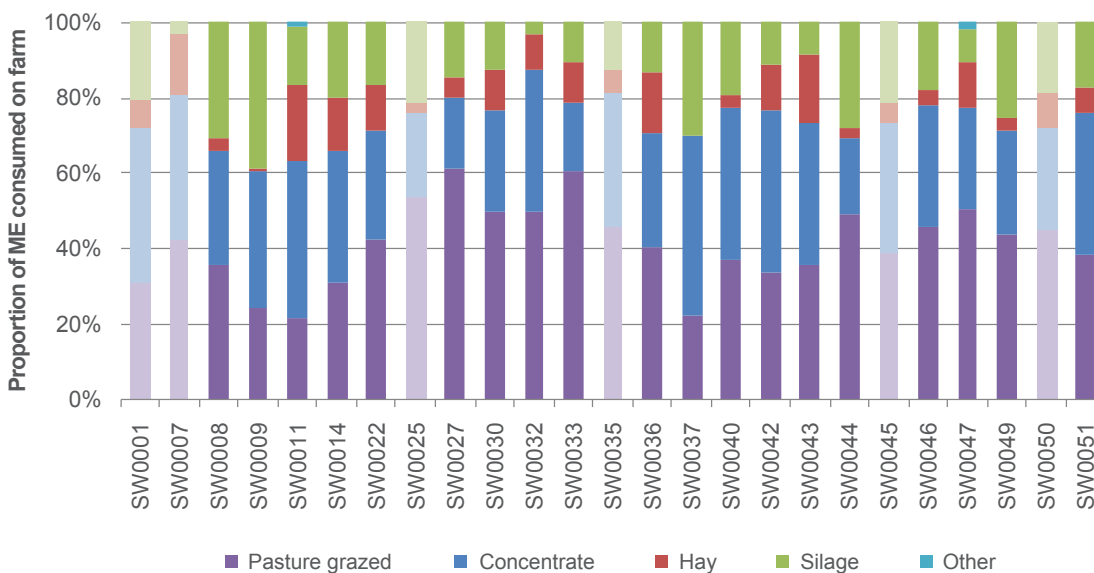
South West farms sourced 41% of their ME from directly grazed pasture, a decrease from 52% in 2016-17. This highlights the effect of dry climatic conditions and reliance on conserved fodder and purchased feeds.

Farms supplemented the decrease in grazed pasture with silage in 2017-18. Silage increased from 12% as a proportion of ME in the diet, the previous year, to 18% this year.

The silage was sourced from home grown and purchased feeds.

Hay also increased this year, almost doubling from 5% last year to 9% in 2017-18. Concentrates were the most commonly used supplement again this year, accounting for 33% of the diet. Figure 29 shows the relative contribution of each feed type to the ME consumption on farm.

FIGURE 29. SOURCES OF WHOLE FARM METABOLISABLE ENERGY – SOUTH WEST



Home grown feed consumption is shown in Figure 30. The challenging seasonal conditions resulted in the total average pasture harvested (grazed and conserved) from the milking area falling from 7.0 t DM/ha last year to 5.7 t DM/ha this year. Both grazed and conserved pasture harvested contributed to this decrease.

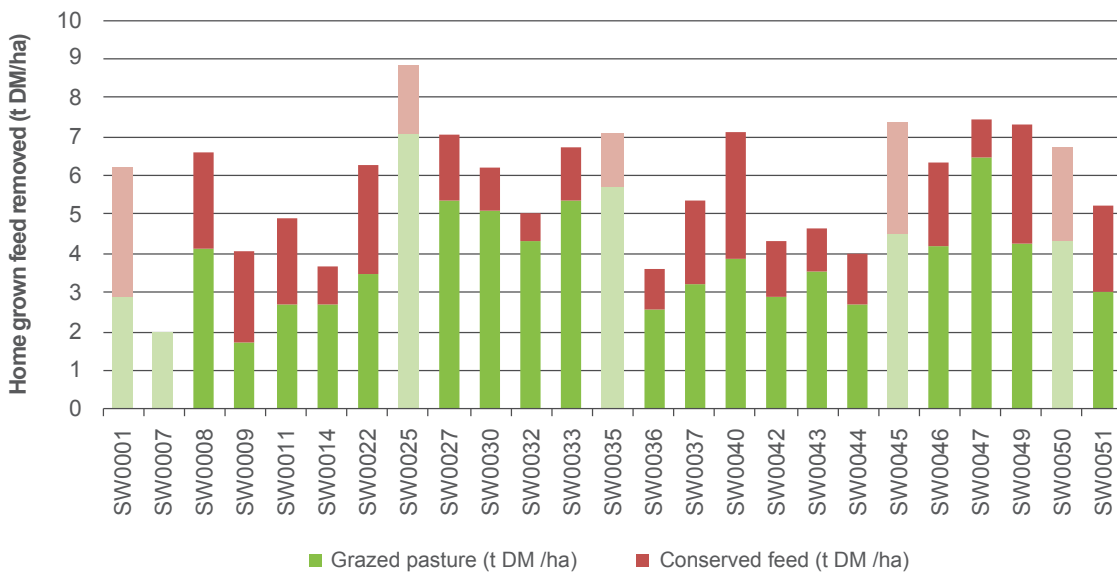
Directly grazed pasture reduced from 4.8 t DM/ha, down to 3.9 t DM/ha. On average farms had to find an additional 1.0 t DM/ha to supplement the cows' diet to maintain milk production. This additional fodder supplement requirement contributed to the greater costs on South West farms this year.

The wet spring conditions allowed farms to conserve fodder, however multiple cuts were limited when the

season turned dry from November onwards. On average conserved pasture on the milking area reduced from 2.2 t DM/ha in 2016-17, down to 1.8 t DM/ha in 2017-18.

Potential sources of error in the method used to calculate home pasture consumed may come from incorrect estimation of liveweight, amounts of fodder and concentrates fed, ME concentration of fodder, concentrate and pasture, wastage of feed and associative effects between feeds when they are digested by the animal. Comparing pasture consumption estimated using the back calculation method between farms can lead to incorrect conclusions and a more useful approach is to compare pasture consumption on the same farm over time using the same method of estimation.

FIGURE 30. ESTIMATED TONNES OF HOME GROWN FEED REMOVED PER MILKING HECTARE – SOUTH WEST



Fertiliser application

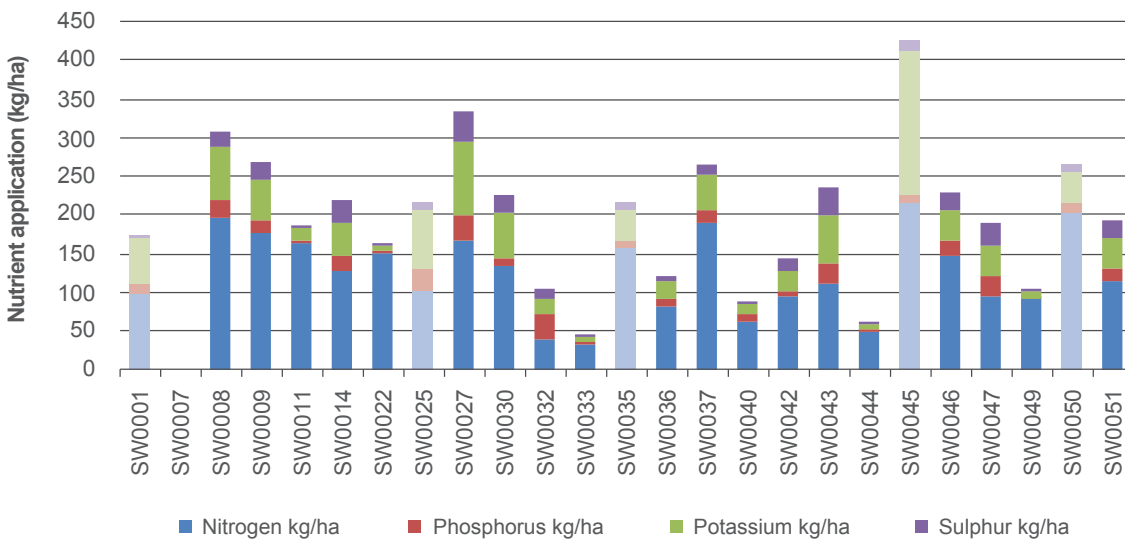
Average total nutrients decreased from 208 kg/ha in 2016-17 to 192 kg/ha in 2017-18. While nutrients applied decreased, average fertiliser costs remained similar at \$0.39/kg MS between years.

Average nitrogen rates reduced slightly between years, with 120 kg/ha applied in 2017-18, compared with 126 kg/ha last year. Some farms focused on growing pastures

and applied extra fertiliser to boost pasture production thereby attempting to limit their reliance on purchased feeds.

Figure 31 shows average phosphorous and sulphur applications were 14 kg/ha, while potassium was 43 kg/ha in 2017-18. The individual values relating to Figure 31 can be found in Appendix Table C2.

FIGURE 31. NUTRIENT APPLICATION PER USABLE HECTARE – SOUTH WEST



Part Four: **Gippsland**



Gippsland

There was one new farm to the Gippsland participants in 2017-18; GI0057.

2017-18 seasonal conditions

Climatic conditions in 2017-18 were generally not favourable in Gippsland. Sporadic rain fall events of either too little or too much rain hampered fodder conservation across the region and significantly reduced pasture production, especially on dryland farms. The irrigated region had adequate water to promote good pasture growth and harvesting opportunities.

Figure 32 presents the annual rainfall received on each farm compared to the long-term average. In 2017-18, most participant farms received 85% of the long-term average. Farmers relied on conserved forage to meet feed supply deficits during the year.

After a fair spring period, rainfall was sporadic and very little rainfall was received until December 2017. A dry summer and autumn period led to reduced amounts of pasture being available for conservation.

Dryland farms found the conditions challenging to manage and the climatic conditions experienced were variable across the region. While coastal Gippsland from Wonthaggi to Yarram fared well, areas east of Yarram and

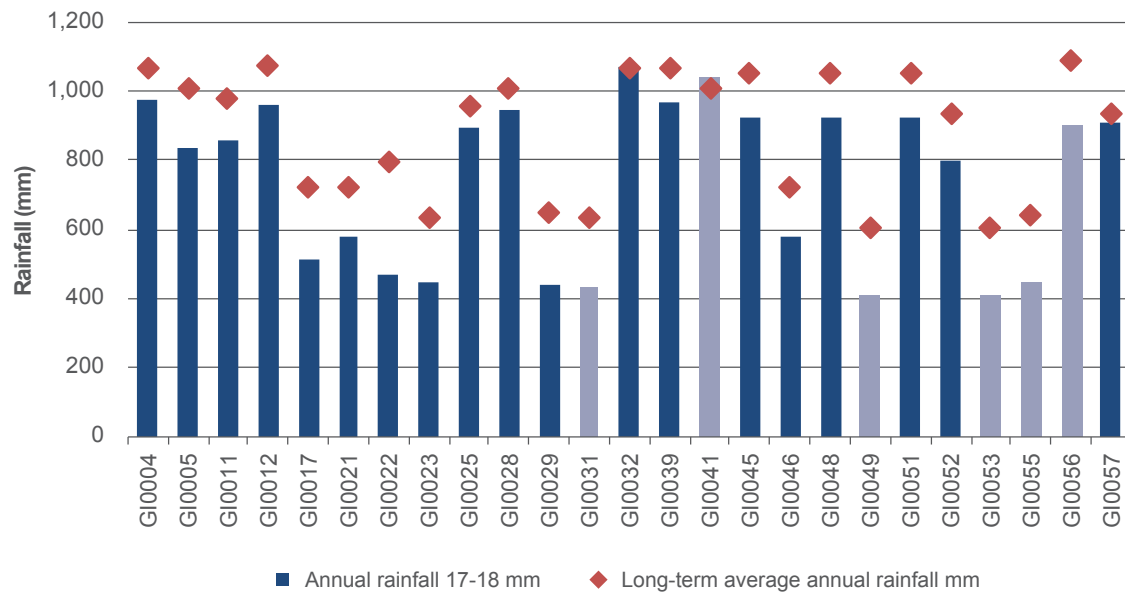
west of Inverloch experienced significant reductions in monthly rainfall.

East Gippsland experienced very poor pasture growing conditions for the entire season, having one large rainfall event in December with little or no respite for the remainder of the season.

The Macalister Irrigation District (MID) had an initial seasonal determination of 40% high reliability water shares which was upgraded to 100% with up to 20% low reliability water shares. Glenmaggie Weir provided spill water in December which enabled consistent watering of pastures for the remainder of the irrigation season.

*Top 25% - The top 25% are shown as the lighter bars in all graphs as ranked by RoTA.

FIGURE 32. 2017-18 ANNUAL RAINFALL AND LONG-TERM AVERAGE RAINFALL – GIPPSLAND



Whole Farm Analysis

Average Gippsland profits improved in 2017-18 compared to the previous year, on the back of a 19% improvement in milk price – the largest increase seen across the regions, despite challenging seasonal conditions and a corresponding rise in feed costs. The results also show the large difference in performance between the top group and the average was driven by large increases in stocking rate, milk production per hectare and labour efficiency, as well as careful cost control.

Key whole farm physical parameters for Gippsland are presented below in Table 10. The Q1 – Q3 range shows the band in which the middle 50% of farms sit for each parameter.

Gippsland farms received less rain in 2017-18 than in 2016-17. This influenced the ability to maintain and feed stock on the home area from home grown feed sources. Instead, farmers imported additional feed and utilised their fodder reserves. The lower reliance on home grown feed was reflected in the percentage of ME consumed reducing considerably to 66% for the average and 64% for the top 25%. In 2016-17, home grown feed as a proportion of ME consumed was 70% and 72%, respectively.

The top 25% performers had a higher water use efficiency, growing more feed per 100mm of water (rainfall plus irrigation) this year than the average. The top 25% performers also had higher per cow production (kg MS/cow), with a slightly larger average herd size (309 cows compared to 294 cows), smaller milking area (103 ha compared to 124 ha), but lower usable area (155 ha compared to the average 189 ha).

Furthermore, the top 25% performers had a higher stocking rate on their usable area at 2.6 cows per hectare (cows/ha) compared to the average of 1.8 cows/ha, but both increased since last year. Production per cow increased to 494 kg MS/cow compared to the average which reduced to 471 kg MS/cow.

The Gippsland average decreased from 486 kg MS/cow last year to 471 kg MS/cow but production per hectare increased to 849 kg MS/ha from 823 kg MS/ha last year (Table 10).

Per hectare milk production appeared to be the focus of the top 25% with a very large increase to 1,276 kg MS/ha from 942 kg MS/ha last year, compared to the average of 849 kg MS/ha which increased from 823 kg MS/ha last year.

The top 25% performers, had higher labour efficiency in terms of milk solids per full time equivalent (FTE) with 68,186 kg MS/FTE, which was again higher than 64,707 kg MS/FTE recorded in 2016-17. The labour efficiency of the average only increased marginally from the previous year to 113 cows/FTE and 52,992 kg MS/ha.

TABLE 10. FARM PHYSICAL DATA – GIPPSLAND

Farm Physical Parameters	Gippsland average	Q1 to Q3 range	Top 25% average
Annual rainfall 2017-18 (mm)	746	466 - 925	607
Total water use efficiency (t DM/100mm/ha)	0.9	0.7 - 0.9	1.0
Total usable area (hectares)	189	100 - 245	155
Milking cows per usable area (cows/ha)	1.8	1.4 - 1.9	2.6
Milk sold (kg MS/cow)	471	432 - 515	494
Milk sold (kg MS/ha)	849	599 - 869	1,276
Home grown feed as % of ME consumed	66%	62% - 71%	64%
Labour efficiency (cows/FTE)	113	94 - 127	141
Labour efficiency (kg MS/FTE)	52,992	44,914 - 62,799	68,186

Milk solids sold

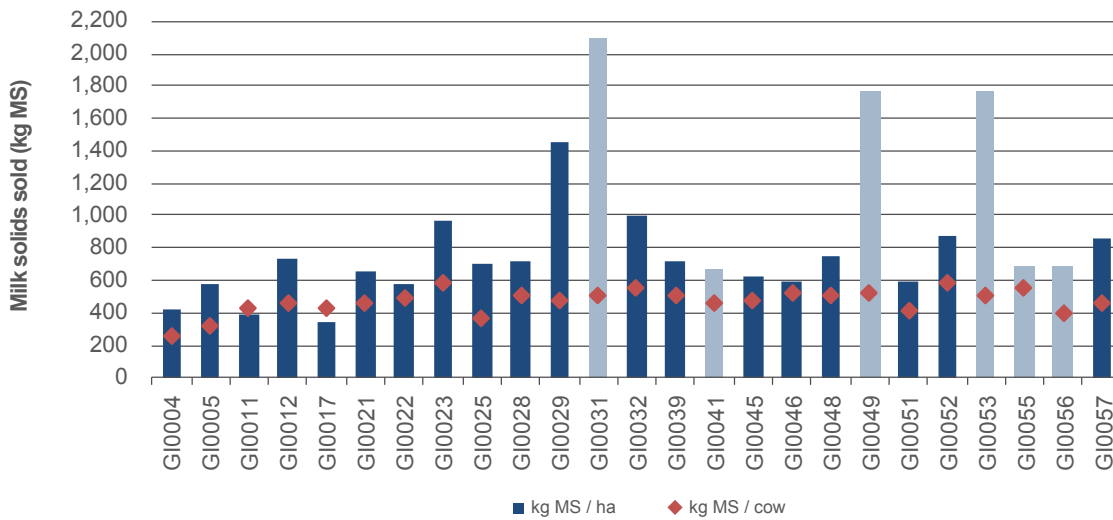
Figure 33 shows the range of milk solids sold per cow and per hectare for Gippsland farms during 2017-18.

The top 25% performers increased their milk solids sold to 1,276 kg MS/ha this year, from 942 kg MS/ha in 2016-17, a 35% increase. This increase can partly be explained by the change in the farms who recorded profits in the top group. Once again, a large range in milk solids sold was observed, from 342 to 2,094 kg MS/ha, with the average being 849 kg MS/ha, increasing only slightly on last year.

Figure 33 also presents data for per cow production. Milk production ranged from 252 kg MS/cow to 581 kg MS/cow with an average of 471 kg MS/cow, reducing slightly from 484 kg MS/cow last year.

The top 25% performers sold an average of 1,276 kg MS/ha or 494 kg MS/cow, suggesting that a focus on milk production this year both per cow and per hectare was rewarded in addition to receiving a considerably higher milk price per kg MS produced.

FIGURE 33. MILK SOLIDS SOLD PER HECTARE AND PER COW – GIPPSLAND



Gross farm income

Gross farm income includes all farm income relating to the dairy farm business, whether from milk sales, livestock trading or any other dairy related income.

Gross farm income increased substantially in 2017-18 to \$6.26/kg MS compared to \$5.50/kg MS in 2016-17 (Figure 34). This increase was bolstered by a much higher milk price and only a minor reduction in other farm income. The variation in gross farm income per kilogram of milk solids was from \$5.43/kg MS to \$7.17/kg MS. The \$1.74/kg MS difference across the region in gross farm income was considerably smaller than the range of \$2.99/kg MS last year.

Other farm income was on average \$0.52/kg MS and consisted mainly of livestock trading profit inclusive of livestock inventory change.

Gross farm income for Gippsland participants was \$6.26/kg MS for the average as well as top 25% performers. There was however, a small difference in the mix of milk income received and other farm income.

Milk price recovered considerably this season, increasing by 19% to \$5.74/kg MS from \$4.84/kg MS last year, following three years of continual reductions. The top 25% performers also received a large increase of 20% to their milk income from \$4.85/kg MS last year to \$5.83/kg MS this year.

The range for milk price in the region in 2017-18 was between \$5.44/kg MS and \$6.10/kg MS compared to last year, which had a range between \$4.42/kg MS and \$5.58/kg MS.

FIGURE 34. GROSS FARM INCOME PER KILOGRAM OF MILK SOLIDS – GIPPSLAND



Variable costs

Variable costs are costs that vary with the size of production in the enterprise e.g. herd, shed and feed costs (including feed and water inventory changes). The separation of variable and overhead costs per kilogram of milk solids is shown in Figure 35.

In 2017-18, variable costs in Gippsland increased by 20% from the previous year to an average of \$3.21/kg MS. Variable costs ranged between \$2.05/kg MS to \$4.12/kg MS. The top 25% performers had average variable costs of \$2.83/kg MS, a 22% increase, similar to variable costs in 2015-16.

The largest variable cost was feed, comprising 50% of total costs (variable plus overhead costs), at \$2.69/kg MS this year, a 22% increase from last year. There was a \$0.22/kg MS increase in grain and concentrate purchases this year, contributing to the largest feed expense as well as the greatest increase. Concentrate costs were on average \$1.43/kg MS, increasing by 18% since last year. Feed inventory also declined, as farmers fed out stored fodder reserves to manage the poorer pasture conditions, adding further cost of \$0.08/kg MS.

Table 11 provides an indication of the range in average farm financial performance for Gippsland farms per kilogram of milk solids, including a breakdown of variable and overhead costs.

Appendix Table D4 shows the variable costs per kilogram of milk solids sold and the percentage breakdown can be found in Appendix Table D6.

Overhead costs

Figure 35 illustrates the overhead costs per kilogram of milk solids. Overhead costs are 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 non-cash costs such as imputed owner-operator labour, family labour and depreciation of plant and equipment.

In Gippsland, total overhead costs ranged between \$1.55/kg MS and \$3.66/kg MS. Overhead costs increased by 5% in 2017-18 compared to last year with an average of \$2.21/kg MS. The largest increase in overhead cost expenditure was for employed labour, which increased by 9% to \$0.57/kg MS, while the number of employed labour units increased from 1.15 full time equivalents (FTE) to 1.28 FTE.

Overhead costs for the top 25% also increased by 11% to \$1.75/kg MS from last year's average overhead costs of \$1.58/kg MS.

While total labour reduced remained unchanged at 2.7 FTE for the average this year, the total labour decreased from 2.7 FTE to 2.3 FTE for the top 25% performers. The employed labour costs increased from \$0.50/kg MS to \$0.54/kg MS. The top 25% reduced the amount of paid labour from 1.19 FTE to 1.05 FTE while also reducing imputed labour. This is partially due to a change of farms in the top 25% group this year and an overall increase in paid labour rates

A minor decrease was also seen in imputed labour use on the average farm this year decreasing from 1.55 FTE to 1.39 FTE imputed labour and a slight increase in paid labour from 1.16 FTE to 1.28 FTE.

The breakdown of overheads costs can be found in Appendix Tables D5 and D7.

FIGURE 35. WHOLE FARM VARIABLE AND OVERHEAD COSTS PER KILOGRAM OF MILK SOLIDS – GIPPSLAND

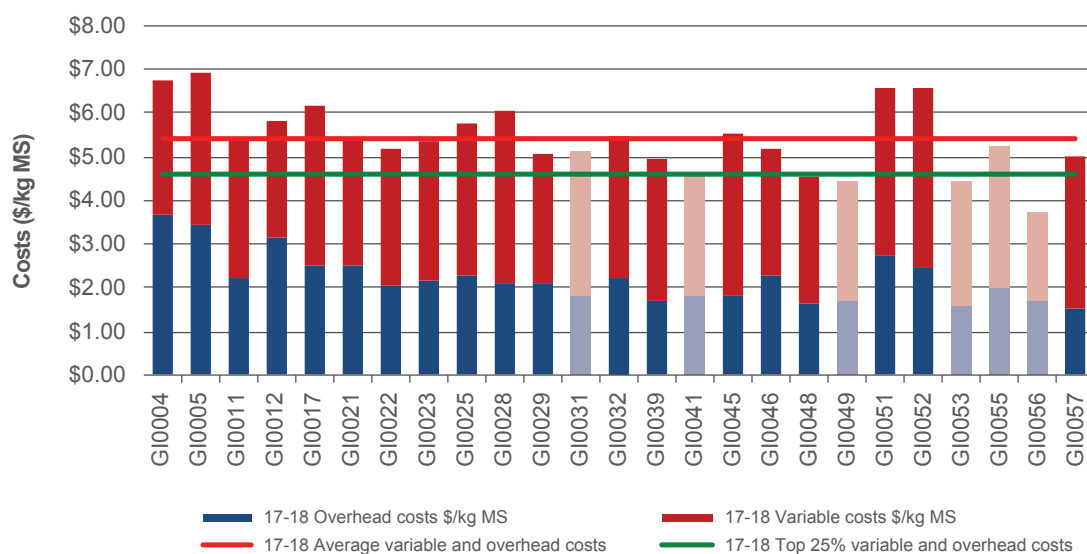


TABLE 11. AVERAGE FARM FINANCIAL PERFORMANCE PER KILOGRAM OF MILK SOLIDS – GIPPSLAND

Farm income and cost category	Gippsland average	Q1 to Q3 range	Top 25% average
INCOME			
Milk income (net)	\$5.74	\$5.53 - \$5.91	\$5.83
Livestock trading profit	\$0.49	\$0.34 - \$0.56	\$0.42
Other farm income	\$0.02	\$0.00 - \$0.05	\$0.00
Gross farm income	\$6.26	\$6.11 - \$6.40	\$6.26
VARIABLE COSTS			
Herd cost	\$0.31	\$0.26 - \$0.35	\$0.28
Shed cost	\$0.21	\$0.17 - \$0.22	\$0.20
Home grown feed cost	\$0.88	\$0.71 - \$1.05	\$0.70
Purchased feed and agistment	\$1.73	\$1.51 - \$1.94	\$1.63
Feed inventory change	\$0.08	-\$0.03 - \$0.15	\$0.02
Water inventory change	\$0.00	\$0.00 - \$0.00	\$0.00
Total feed costs	\$2.69	\$2.43 - \$2.94	\$2.35
Total variable costs	\$3.21	\$2.91 - \$3.48	\$2.83
GROSS MARGIN			
per kilogram of milk solids	\$3.05	\$2.68 - \$3.51	\$3.42
OVERHEAD COSTS			
Employed labour	\$0.57	\$0.34 - \$0.96	\$0.54
Repairs and maintenance	\$0.26	\$0.19 - \$0.32	\$0.23
All other overheads	\$0.28	\$0.20 - \$0.37	\$0.22
Imputed labour	\$0.90	\$0.66 - \$1.07	\$0.58
Depreciation	\$0.20	\$0.11 - \$0.27	\$0.18
Total overhead costs	\$2.21	\$1.79 - \$2.47	\$1.75
Variable and overhead costs	\$5.42	\$4.98 - \$5.80	\$4.59
EARNINGS BEFORE INTEREST AND TAX			
per kilogram of milk solids	\$0.84	\$0.47 - \$1.51	\$1.67

Cost of Production

Cost of production gives an indication of the cost of producing a kilogram of milk solids. It is calculated as variable plus overhead costs and accounts for changes in fodder, water and livestock inventory.

Table 12 shows that the average cost of production with inventory change has increased significantly, by 13% from \$4.78/kg MS last year, to \$5.42/kg MS this year. The top 25% of farms had an even greater cost of production increase of 21% to \$4.54/kg MS, from \$3.75/kg MS in 2016-17.

Feed inventory decreased this year by \$0.08/kg MS on average and by \$0.02/kg MS for the top 25% performers indicating that fodder reserves were utilised to manage feed availability during this difficult season.

Table 12 shows a negative cost for livestock inventory change for the top 25% of farms, indicating that there was more dairy livestock on hand for these farms at the end of the year than at opening.

TABLE 12. COST OF PRODUCTION – GIPPSLAND

Farm costs (\$/kg MS)	Gippsland average	Q1 to Q3 range	Top 25% average
Cash cost of production (\$/kg MS)	\$4.24	\$3.83 - \$4.81	\$3.81
Cost of production without inventory changes (\$/kg MS)	\$5.34	\$4.99 - \$5.83	\$4.56
INVENTORY CHANGE			
+/- feed and water inventory change	\$0.08	-\$0.03 - \$0.15	\$0.02
+/- livestock inventory change minus purchases	\$0.00	-\$0.21 - \$0.18	-\$0.04
Cost of production with inventory change (\$/kg MS)	\$5.42	\$4.73 - \$6.09	\$4.54

Earnings before interest and tax

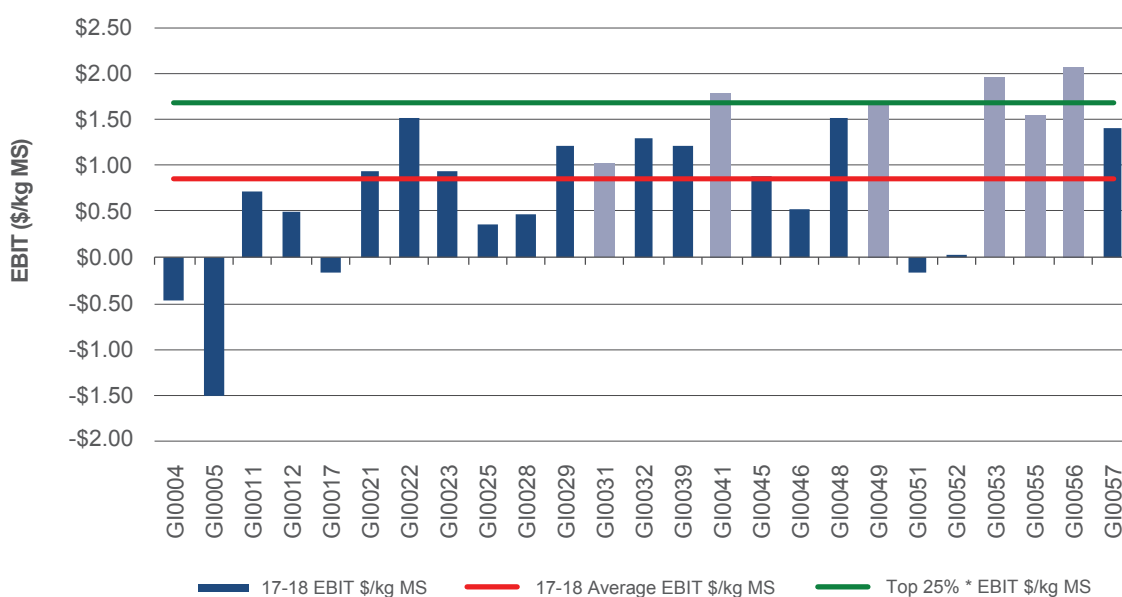
Gross farm income minus total variable and total overhead costs is EBIT.

The large improvement in milk price experienced this year was combined with challenging seasonal conditions and increased costs to participants. This resulted in only 21 of the 25 participants recording a positive EBIT compared to 23 of 25 participants last year.

Despite this, the average EBIT has increased by 16% from \$0.73/kg MS recorded last year to \$0.84/kg MS this year. The top 25% also recorded a minor increase in EBIT from \$1.65/kg MS last year to \$1.67/kg MS this year (Figure 36).

The largest impact on Gippsland profitability was the improvement in milk price from \$4.84/kg MS to \$5.74/kg MS this year, the largest increase across the three regions.

FIGURE 36. WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER KILOGRAM OF MILK SOLIDS – GIPPSLAND



Return on total assets and equity

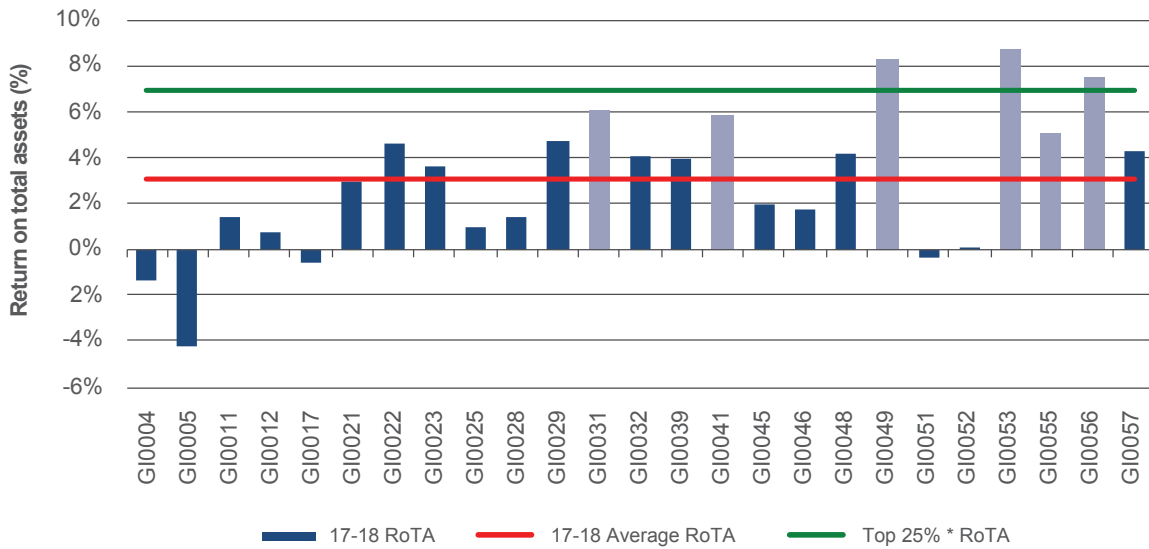
The return from total assets under management, including owned and leased assets, is RoTA. It is calculated as EBIT divided by total assets.

In 2017-18, Gippsland participants returned an average 3.0% positive RoTA. It was positive for 21 of the 25 participants with the range for all Gippsland participants between negative 4.3% and 8.7% as shown in Figure 37.

The RoTA for the top 25% was 6.9% compared to 5.5% last year.

The variation between farms' RoTA is indicative of the variation in EBIT between farms, except where those farms with a similar EBIT manage total assets of a different value. The variation in the valuation of the total assets managed is also reflected in the RoTA.

FIGURE 37. RETURN ON TOTAL ASSETS – GIPPSLAND

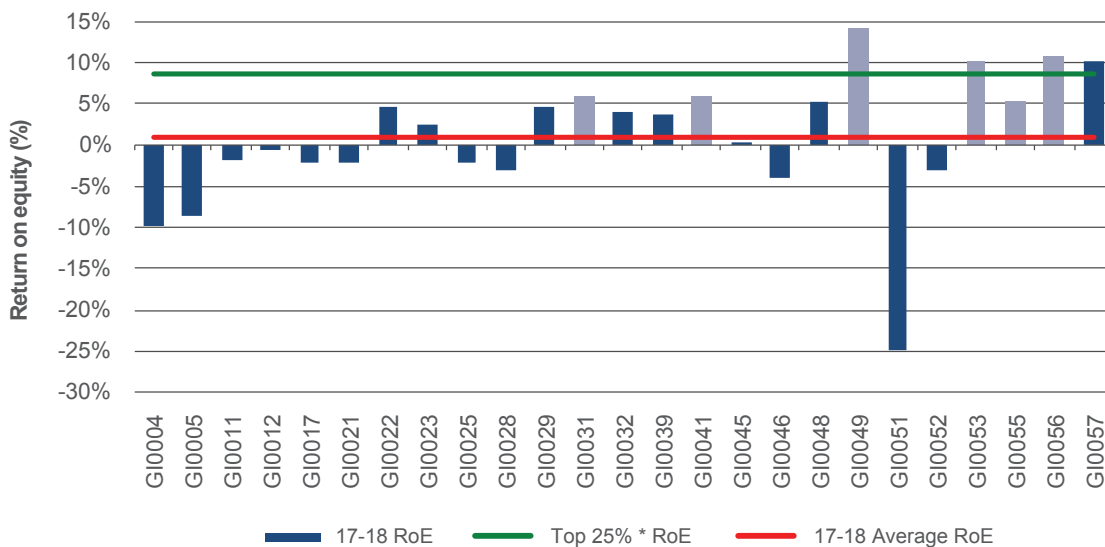


A measure of the owner's rate of return on their own capital investment in the business is RoE. Approximately half (14 out of 25) of the Gippsland farms returned a positive RoE in 2017-18 (Figure 38), which was the same as last year. While the average RoE was 1.0%, an improvement from last year at 0.7%, the range in RoE was between negative 24.8% and 14.3%.

The top 25% group achieved 8.7% RoE this year, compared to last year when an average of 6.7% was recorded.

Interest and lease costs remained similar again this year at \$0.69/kg MS on average, with the top 25% group averaging \$0.44/kg MS, a decrease from \$0.50/kg MS last year. Average capital values can be seen in Appendix D8.

FIGURE 38. RETURN ON EQUITY – GIPPSLAND



Feed consumption and fertiliser

Gippsland participants sourced 55% of their herd energy requirements from directly grazed pastures. Eighteen of the 25 dairy farming systems were predominantly pasture based, sourcing at least half their ME requirements from grazed pasture, despite the challenging seasonal conditions.

Feed consumption

Pasture consumption was calculated as the difference between the total ME on farm for all stock classes and the ME provided from concentrates, silage, hay and other sources. A further description of the method used to calculate ME sources and feed consumption is given in Appendix E.

In Gippsland, directly grazed pasture was reduced from last year with farms obtaining an average of 55% of ME consumed on the usable area, compared to 59% last year. Total home grown feed (pasture and conserved feed) as a percentage of ME consumed was 66%, a reduction on the 70% last year.

As seen in Figure 39, concentrates (shaded blue) provided the second largest proportion of ME consumed at 30% on average. The top 25% performers had a greater reliance on ME from concentrates obtaining 34% from this source, and 57% of ME was from directly grazed pasture, reducing from 61% last year.

'Other' feed included those feedstuffs not generally available to dairy farmers on the common market, such as almond hulls and citrus pulp. Figure 39 shows the composition of ME consumed from different sources for each farm.

FIGURE 39. SOURCES OF WHOLE FARM METABOLISABLE ENERGY – GIPPSLAND

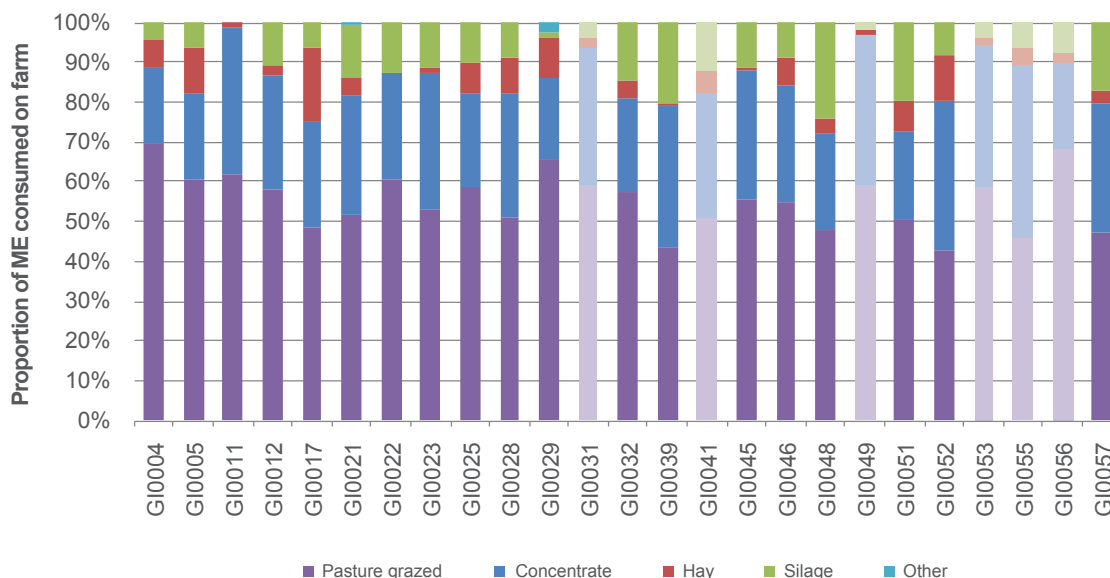


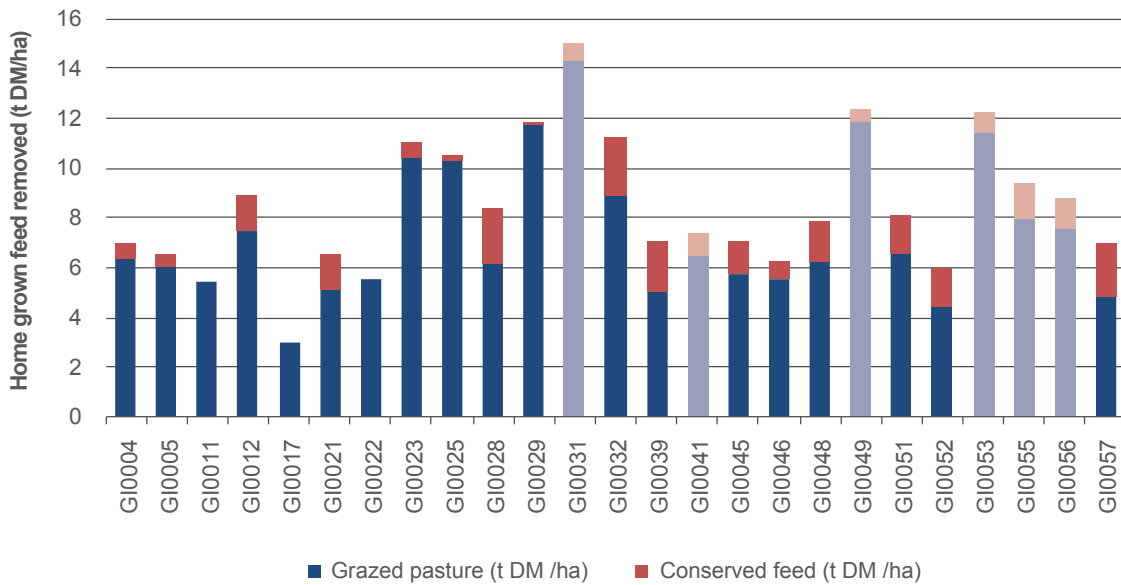
Figure 40 shows the estimated tonnes of dry matter of home grown feed consumed per milking hectare. Home grown feed can be grazed pasture (shown by the blue bars) and conserved fodder (red bars). Total home grown feed consumed (pasture plus conserved forage) ranged from 3.0 t DM/ha up to 16.6 t DM/ha. The average home grown feed consumed per milking hectare was 8.4 t DM/ha compared to the average last year of 9.2 t DM/ha. The top 25% of farms averaged 10.9 t DM/ha, slightly higher than last year.

The quantity of directly grazed pasture consumed was on average 7.4 t DM/ha, a 6% decrease from 7.9 t DM/ha last year. The quantity of conserved feed also reduced to 1.2 t DM/ha from 1.4 t DM/ha last year. There was a feed

inventory reduction on average for Gippsland last year and three farms did not conserve forage on the milking area, compared to only one last year.

Potential sources of error in the method used to calculate home grown pasture consumed may come from the incorrect estimation of liveweight, amounts of fodder and concentrates fed, ME concentration of fodder, concentrate and pasture, feed wastage and associative effects between feeds when they are digested by the animal. Comparing pasture consumption estimated using the back calculation method between farms can lead to incorrect conclusions and a more useful approach is to compare pasture consumption on the same farm over time using the same method of estimation.

FIGURE 40. ESTIMATED TONNES OF HOME GROWN FEED REMOVED PER MILKING HECTARE – GIPPSLAND



Fertiliser application

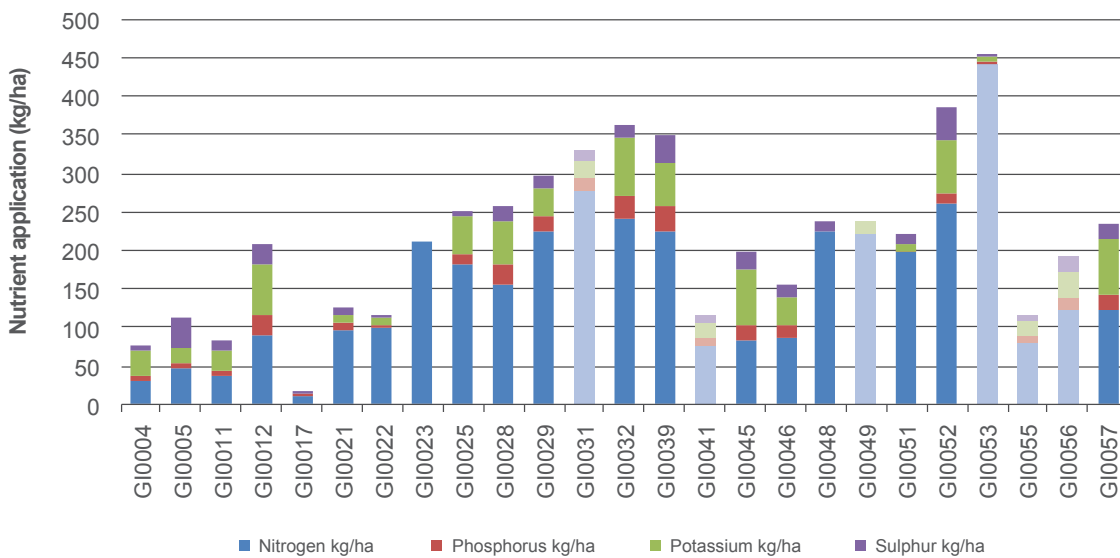
Farms in Gippsland used a wide range of fertilisers and fertiliser application rates, both between farms and within the mix of key macronutrients on individual farms (Figure 41).

With reduced pasture growth opportunities throughout the year, it would be expected that fertiliser application on average would reduce. A decrease in nitrogen was seen this year with an average use of 154 kg/ha and a large range applied varying from 13 kg/ha to 443 kg/ha on the usable area.

The amounts of phosphorus applied remained unchanged (12 kg/ha) and potassium application rose only slightly to 32 kg/ha compared to 27 kg/ha last year. Sulphur application also remained unchanged at 15 kg/ha.

The top 25% of businesses increased their nitrogen application to 204 kg/ha, maintained phosphorus application at 10 kg/ha, potassium (18 kg/ha) and sulphur (9 kg/ha). The values for Figures 40 and 41 can be found in Appendix Table D2.

FIGURE 41. NUTRIENT APPLICATION PER HECTARE (USABLE AREA) – GIPPSLAND



Part Five:
**Business
confidence
survey**



Expectations and issues

Responses to this business confidence survey were made in July and August 2018 with regard to the 2018-19 financial year and the next five years to 2022-23. Four farmers did not complete the survey.

Expectations for business profit

Following a better 2017-18 season than the last two years for most parts of the state, expectations about business returns for the 2018-19 season were cautious. Forty-eight farmers (68%) predicted their business returns will improve; 13 farmers (18%) expected no change; six farmers (8%) were unsure and four farmers (6%) expected their business returns to deteriorate in 2018-19.

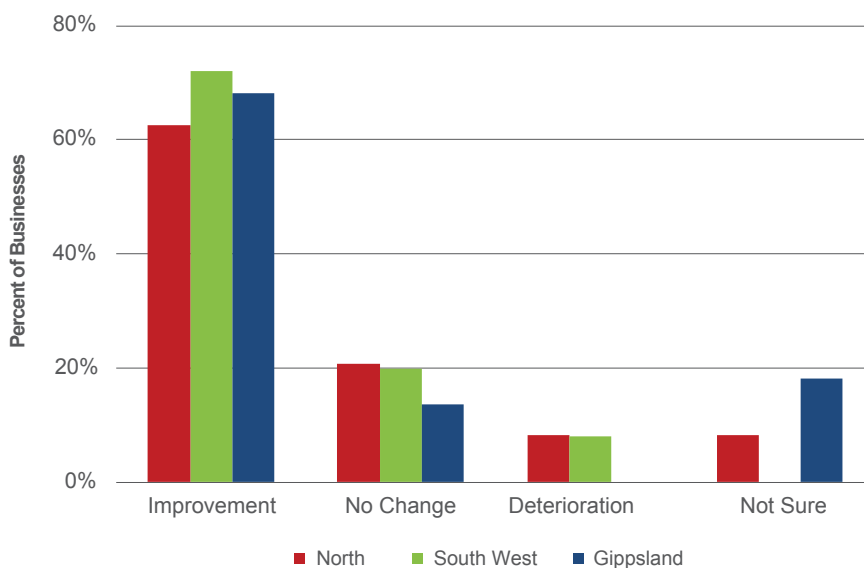
Responses to the survey were made with consideration to all aspects of farming, including climate and market conditions for all products bought and sold. While expectations of the coming year were generally positive there were slight regional differences.

Participants in the South West were more optimistic than farmers in the other regions with 72% expecting an improvement to their farm business returns in 2018-19 (Figure 42). A high proportion of farmers in the North

and Gippsland also expected an improvement in their business returns in the coming year.

There were also farmers across all regions who did not expect any change in their business returns in 2018-19. A few farmers from the North and Gippsland were not sure about their business returns in the coming season. Two farmers in the North and in the South West expected a deterioration in their farm business returns.

FIGURE 42. EXPECTED CHANGE TO FARM BUSINESS PROFIT IN 2018-19



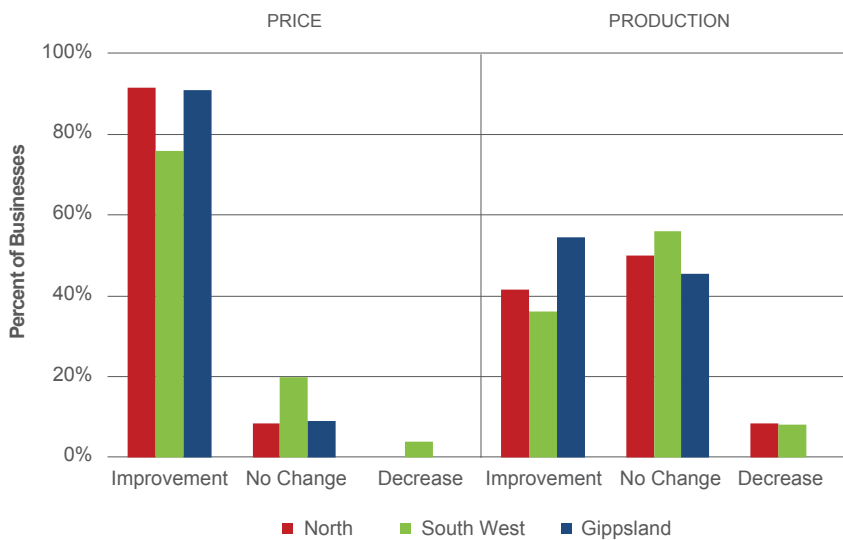
Price and production expectations - milk

Majority of the participant farmers across the state were expecting their milk price to increase in 2018-19 (Figure 43). Farmers in Gippsland received the lowest milk price in 2017-18 among the three regions, and 91% of participants expected their milk price to increase in the coming year. On the other hand, farmers in the North received the highest milk for the state and 92% of the participants expected their milk price to increase in 2018-19. Most of the South West farmers (76%) expect they will receive higher milk price this coming season.

Less than half (44%) of participants across the state indicated that they will increase their milk production in 2018-19.

More farmers in Gippsland than in other regions expected their production to increase while more farmers in the South West expected to maintain their production level. There were also a few farmers in the North and South West who expected to decrease their milk production, similar to last year's sentiment.

FIGURE 43. PRODUCER EXPECTATIONS OF PRICES AND PRODUCTION OF MILK IN 2018-19

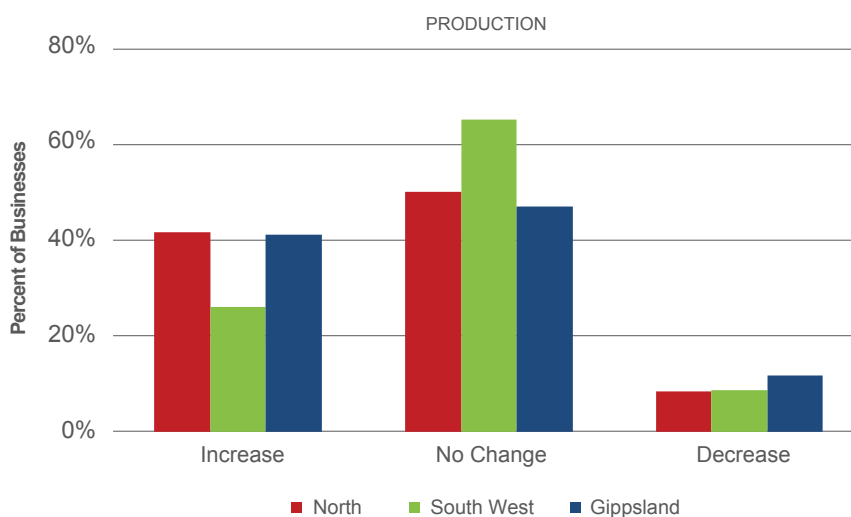


Production expectations - fodder

Eleven farmers did not provide answers to the question regarding expectations of fodder production. Of the 64 responses across the state, 36% indicated that they expected fodder production to increase in the coming year and more than half expected no change to how much feed would be produced on farm. Six farmers (two from each region) reported that fodder production was expected to decrease on their farms in 2017-18 (Figure 44).

Many participants were concerned about seasonal variability in the coming year. The lower than long-term average rainfall in autumn 2018 and a forecast of drier spring had influenced the cautious outlook of participants to increase or maintain fodder production.

FIGURE 44. PRODUCER EXPECTATIONS OF PRODUCTION OF FODDER IN 2018-19



Cost expectations

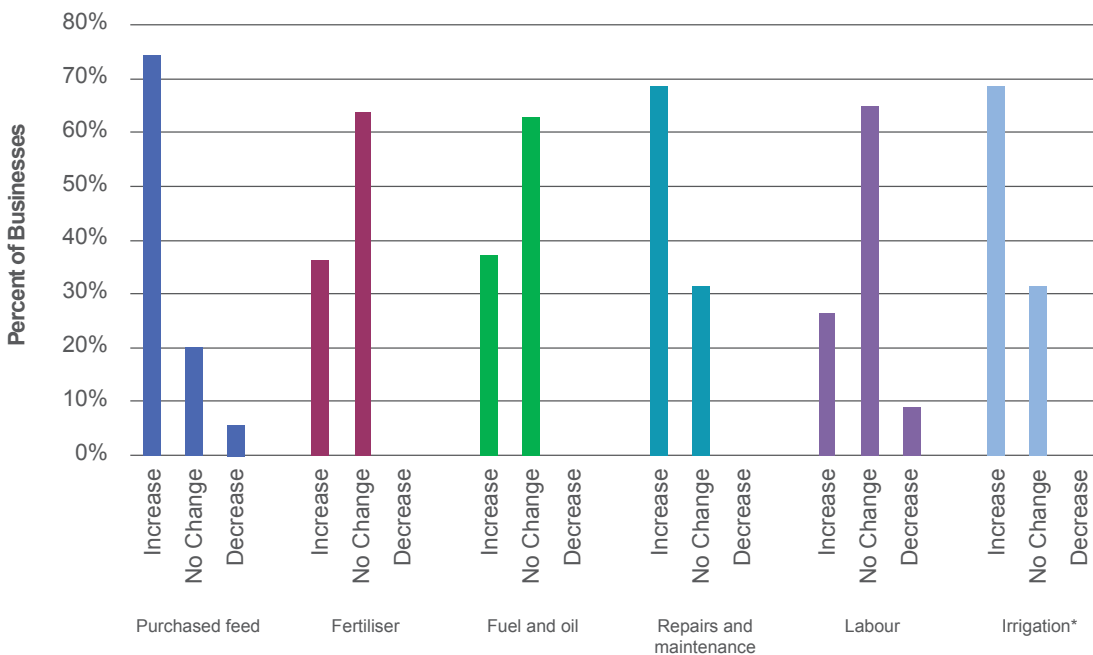
Data presented in Figure 45 details the expectations of costs for the dairy industry from participant farms in the project. Not all participants provided responses to these questions.

The majority of respondents expected input costs in all categories to increase or remain unchanged. Three in four farmers (74%) across the state were expecting the cost of purchased feed to increase. Fuel and oil and labour costs are expected to be maintained in 2018-19 while repairs and maintenance costs are expected to increase.

More than 60% of the participants expected their expenses on fertilisers to remain unchanged, in line with their expectation of maintaining or reducing their fodder production.

Among the irrigators, 69% predicted an increase to their irrigation costs for the coming year. The survey was conducted in July and the median price of temporary water (allocation trading) had reached \$230/ML with a highest price of \$310/ML.

FIGURE 45. PRODUCER EXPECTATIONS OF COSTS FOR THE DAIRY INDUSTRY IN 2018-19



*only includes responses from 35 farms with irrigation

Comments from participants

This is a new section and is a summary of the comments from participants regarding the issues for the short (12 months) and medium term (five years).

Some farmers are planning to expand their business and invest on capital improvements. These initiatives are either through increasing herd size, purchasing additional land although the price of land was noted as a limiting factor, and irrigation development. Pasture renovation and improvement, diversification (agro-tourism) and converting to organic farming were also being planned. A number of farmers had also started to put in place their succession plan and others are planning to leave the dairy industry.

The survey did not qualify what aspect of milk price the farmers are concerned about however, many farmers made a comment on volatility of price and that milk price barely covers their costs (terms of trade). Among the other concerns and challenges were: changing government regulations and policies (such as compliance, animal welfare, water); the future and stability of the industry and where the next generation of dairy farmers will come from; negative publicity of animal industries; financial security with emphasis on the terms of trade and debt servicing if interest rates increased and health, lifestyle, and availability and quality of labour/ sharefarmers.

Major issues in the dairy industry - The next 12 months

The participants were asked to consider seven issues identified in Figure 46 as either highly important, important, slightly important and not important heading into the 2018-19 season.

Figure 46 shows that most of the respondents identified input costs as the most important issue they are facing in the short-term (12 months) with 97% rating it as highly important/important. The results reinforced farmers' expectation of increased costs of purchased feed, fertiliser, and fuel and oil, and irrigators are also expecting an increase in the cost of water.

Milk price (encompassing lower prices and price volatility) and climate/season conditions were the next most highly important issues. The issue of climate/seasonal conditions was highly important to farmers considering the rainfall in 2017-18 was slightly lower than the long-term average in the North and South West, and 15% lower in Gippsland. Farmers were concerned not only about the amount of rainfall, but also the distribution throughout the year.

Pasture/fodder and water received an equal proportion of responses as highly important issues.

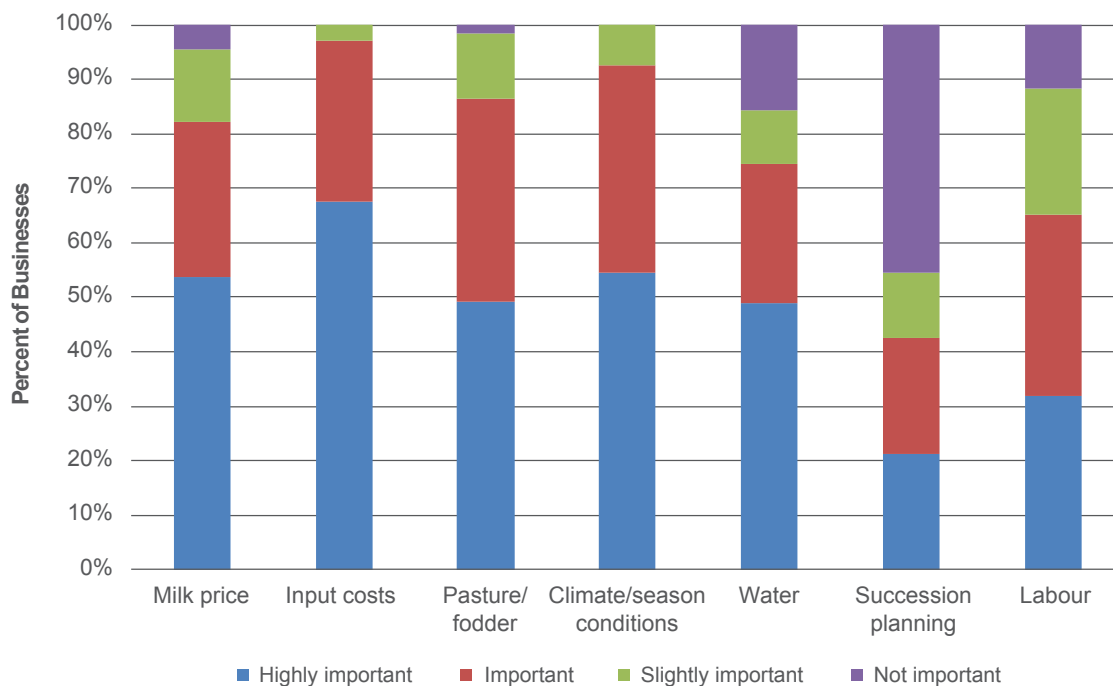
The combined responses for labour as a highly important or important issue was 65% and 42% for succession planning.

In Gippsland, the highly important issue was climate/seasonal conditions (24% of all highly important responses), followed by input costs (18%) and availability of pasture and fodder (18%).

The top three highly important issues in the North were water with 22% of all highly important responses; climate/seasonal conditions (19%) and 17% for input costs.

Among the regions, only the farmers in the South West identified milk price in their top three highly important issues. Input costs (24% of all highly important issues), milk price (22%) and availability of pasture/fodder (17%) were the top three highly important issues for this region.

FIGURE 46. MAJOR ISSUES FOR INDIVIDUAL BUSINESSES – 12 MONTH OUTLOOK



Major issues in the dairy industry - The next five years

The participants identified key issues for their business over the next five years (Figure 47).

The highly important issues for the next five years among the respondents were increasing input costs, volatility of milk price and climate/seasonal conditions impacting on the amount and timing of rainfall events conducive for pasture growth.

In the medium term (five years), milk price is the most important issue with a combined response of highly important and important (93%). Input costs and climate/seasonal conditions both received a combined response of 88%.

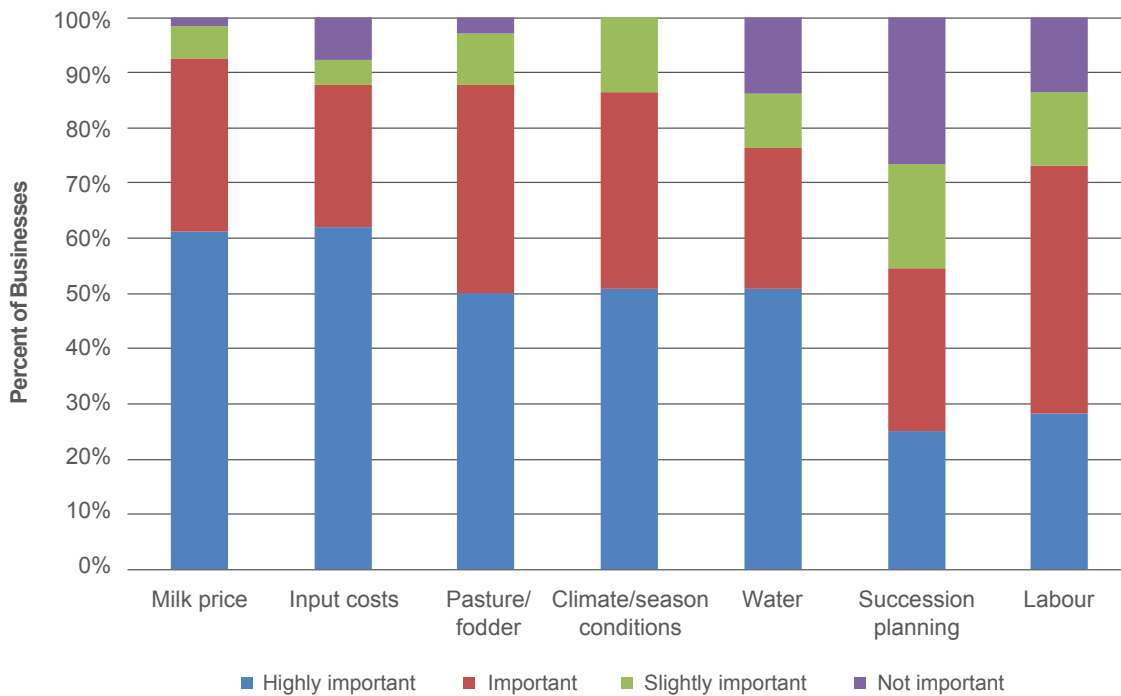
The farmer-participants in Gippsland identified milk price, climate/seasonal conditions and input costs as the highly important issues in the next five years. These three issues each had a combined response of highly important and important of 90%.

Water and input costs are the top two highly important issues in the North with milk price and climate/seasonal conditions receiving the same number of responses. The combined response (highly important and important) for each of these four issues was 91%.

In the South West, input costs and milk price were the top highly important issues. Milk price had a combined response of 96% and input costs had 83% with four respondents not considering it as important. The combined response of highly important and important issues, however, showed that 100% of respondents considered pasture/fodder as an important issue.

Among the three regions, farmers in the South West were more concerned about succession planning than the farmers in the North and Gippsland.

FIGURE 47. MAJOR ISSUES FOR INDIVIDUAL BUSINESSES – 5 YEAR OUTLOOK



Part Six: Greenhouse gas emissions



2017-18 Greenhouse Gas Emissions - Statewide

This year greenhouse emissions calculation was generated through DairyBase using the Australian Dairy Carbon Calculator. The average emissions from participating farms was 14 tonnes of carbon dioxide equivalents per tonne of milk solids (t CO₂-e/t MS) in 2017-18. The most significant source of on-farm emissions were methane from ruminant digestion, contributing 57% of total farm emissions. The next biggest contributor was from pre-farm emissions sources; carbon dioxide from purchased feed and fertiliser, contributing 13%.

Carbon dioxide equivalents (CO₂-e) are used to standardise the greenhouse potentials from different gases. The Global Warming Potential (GWP) is the index used to convert relevant non-carbon dioxide gases to a carbon dioxide equivalent. This is calculated by multiplying the quantity of each gas by its GWP. All the data in this section is in CO₂-e tonnes and expressed per tonne of milk solids produced (CO₂-e/t MS).

The method of estimating Australia's dairy industry greenhouse gas emissions reflects new research outcomes and aligns with international guidelines. The GWP for the three gases discussed in this report is 1: 25: 298 (carbon dioxide; CO₂; methane; CH₄; nitrous oxide; N₂O). This year the greenhouse emission was calculated through DairyBase using the Australian Dairy Carbon Calculator.

The distribution of different emissions for 2017-18 is shown in Figure 48. Greenhouse gas emissions per tonne of milk solids produced ranged from 12.0 t CO₂-e/t MS to 19.0 t CO₂-e/t MS with an average emission level of 15.1 CO₂-e/t MS.

Methane was identified as the main greenhouse gas emitted from dairy farms, accounting for 9.2 t CO₂-e/t MS, 66% of all greenhouse emissions. Methane produced from ruminant digestion (enteric CH₄) was the major source of emissions from all farms in this report, with an average of 57% of total emissions. Methane from effluent ponds accounted for 9% of total emissions on average across the state in 2017-18.

The most efficient strategy to reduce enteric CH₄ production is manipulating the diet by increasing feed quality through improved pastures or supplementation with concentrates and fat supplements. However, it is recommended that fats should not constitute more than 6-7% of the dietary dry matter intake.

The second main greenhouse gas emission was carbon dioxide (CO₂) produced primarily from fossil fuel consumption as either electricity or petrochemicals. Carbon dioxide accounted for 2.8 t CO₂-e/t MS, 22% of emissions in 2017-18. The estimation of greenhouse gas emissions includes a pre-farm gate emission source. These are the greenhouse gases emitted during the

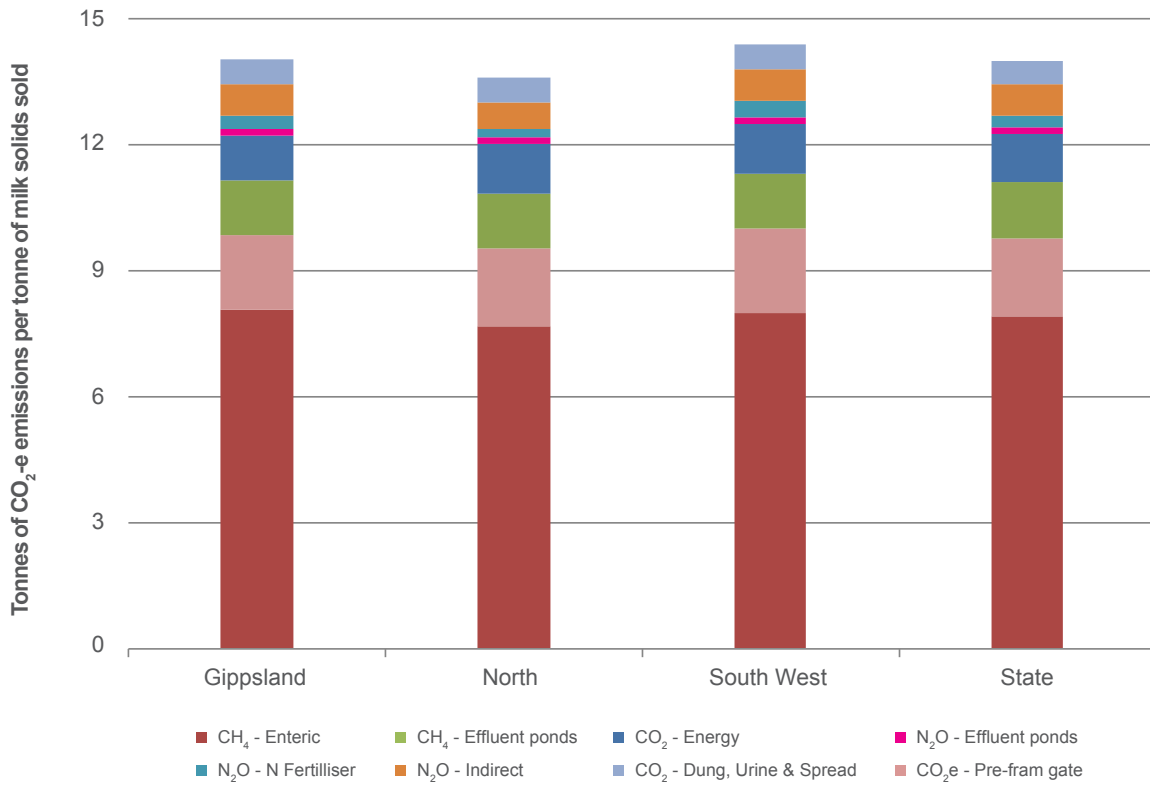
manufacturing of fertilisers and the production of purchased fodder, grain and concentrates. Pre-farm gate sources accounted for 13% of the emissions and 9% from on-farm energy sources. Output levels were highly dependent on the source of electricity used with all farms using brown coal generated electricity, except for two farms which sourced their electricity from renewable sources. A small number of dairy farms installed solar panels to generate electricity and offset the rising cost of electricity. One farm had reduced their shed power cost by 59% using solar panels since December.

The third main greenhouse gas was N₂O with recorded emission of 1.8 t CO₂-e/t MS, 12% of all emissions. This gas is produced from wastes (dung and urine); applied fertiliser and effluent ponds. Nitrous oxide emissions from fertiliser accounted for 2% of total emissions, effluent ponds accounted for 1% and excreta accounted for 4%. Nitrous oxide from indirect emissions was 5%. Nitrous oxide emissions from soils are highest in warm, waterlogged soils with readily available nitrogen. Over application of nitrogen, high stocking intensity and flood irrigation are all potential causes of increased nitrogen loss as N₂O. Strategic fertiliser management practices can reduce N₂O emissions and improve nitrogen efficiency.

The top 25% of farms had higher total farm emission (2,807 t CO₂-e/farm) than the State average (2,526 t CO₂-e/farm). However, their emission was spread over higher milk production per farm than the average, resulting to their slightly lower emissions per kilogram milk solids (13.4 t CO₂-e/t MS). The emissions came from CH₄ (8.9 t CO₂-e/t MS); CO₂ (2.8 t CO₂-e/t MS) and N₂O (1.7 t CO₂-e/t MS). The data demonstrate that farms can achieve efficiency with lower GHG footprint.

There is a growing importance to understand and monitor greenhouse gas emissions, and these are likely to become more important into the future. To find detailed information on the Australian National Greenhouse Gas Inventory, strategies for reducing greenhouse gasses and more details on sources of greenhouse gases on dairy farms visit the Australian Department of the Environment's website at www.environment.gov.au/climate-change.

FIGURE 48. 2017-18 GREENHOUSE GAS EMISSIONS PER TONNE OF MILK SOLIDS PRODUCED (CO₂ EQUIVALENT)



Greenhouse gas emissions - North

Participant farms in the North emitted an average of 13.6 t CO₂-e/t MS in 2017-18, mainly from methane produced by ruminant digestion (57%) and carbon dioxide from purchased feed and fertiliser (14%).

Methane was the main greenhouse gas emitted from participant farms in the North, accounting for 9.0 t CO₂-e/t MS, 66% of the average total greenhouse emissions (Figure 49). Methane produced from ruminant digestion contributed 7.7 t CO₂-e/t MS to regional average emissions while methane from effluent ponds accounted for 1.3 t CO₂-e/t MS.

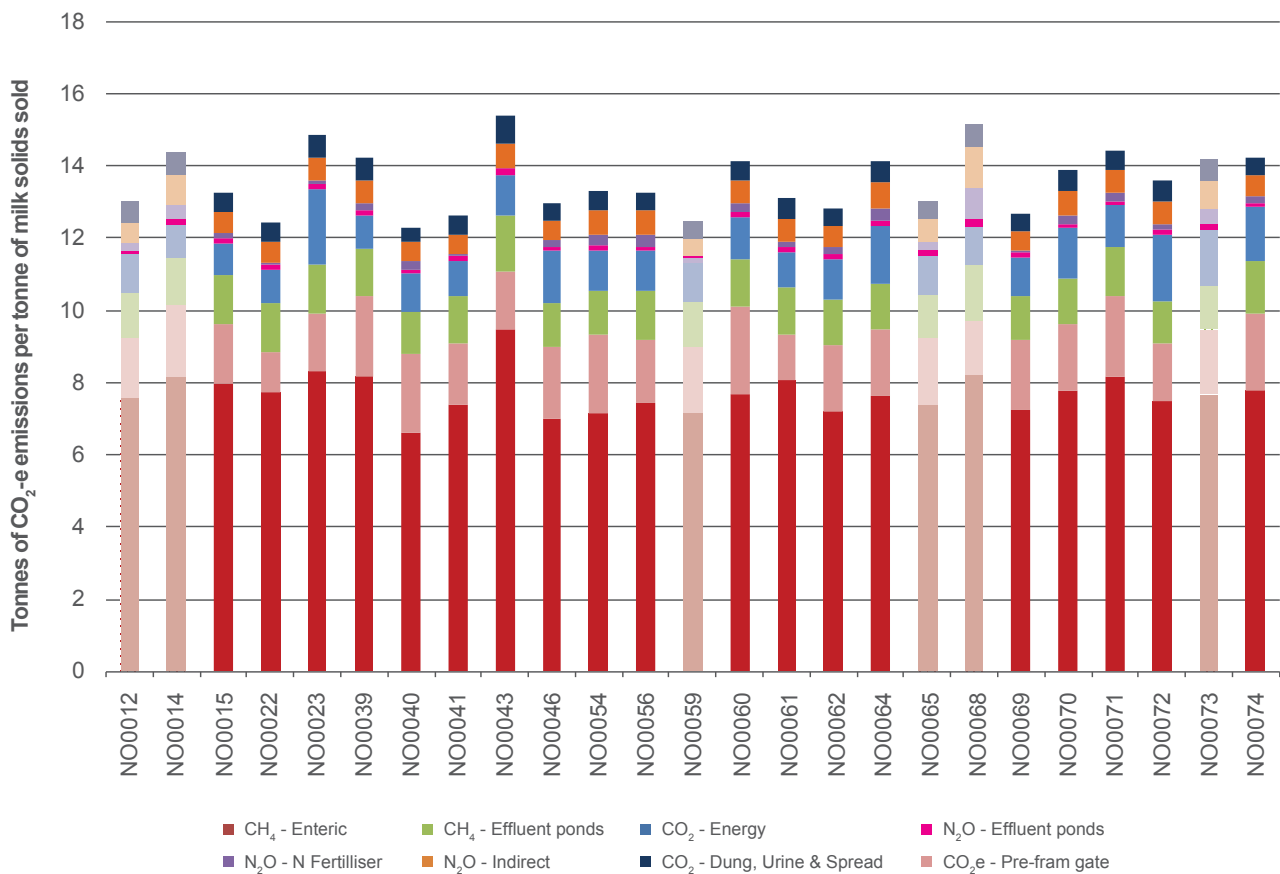
Carbon dioxide accounted for 3.0 t CO₂-e/t MS, 21% of emissions in 2017-18, which comprised 1.2 t CO₂-e/t MS from fossil fuels and 1.8 t CO₂-e/t MS from pre-farm gate sources.

Nitrous oxide emissions contributed 1.6 t CO₂-e/t MS, 11% of all emissions.

Direct emissions from applied nitrogen fertiliser, effluent management systems and animal wastes accounted for 0.9 t CO₂-e/t MS. The balance of 0.6 t CO₂-e/t MS came from ammonia and nitrate loss in soils as indirect sources.

The top 25% of farms had higher emissions per farm, but higher production than the average means the effect of higher emissions was minimal on per kg MS basis. Emissions from the top 25% of farms were 13.7 t CO₂-e/t MS, 1% more than the average. The emissions came from CH₄ (9.0 t CO₂-e/t MS); CO₂ (2.9 t CO₂-e/t MS) and N₂O (1.8 t CO₂-e/t MS). The top performers had lower CO₂ emissions, higher N₂O and similar CH₄ emissions.

FIGURE 49. GREENHOUSE GAS EMISSIONS PER TONNE OF MILK SOLIDS SOLD (CO₂ EQUIVALENT) – NORTH



Greenhouse gas emissions - South West

Participant farms in the South West emitted an average of 14.4 t CO₂-e/t MS in 2017-18. The two main sources of the emissions were methane gas from ruminant digestion (56% of the total emissions) and carbon dioxide from purchased feed and fertiliser (14%).

Methane was the main greenhouse gas emitted from participant farms in the South West accounting for 9.3 t CO₂-e/t MS, 65% of the average total greenhouse emissions. Methane produced from ruminant digestion was 8.0 t CO₂-e/t MS and CH₄ from effluent ponds accounted for 1.3 t CO₂-e/t MS (Figure 50).

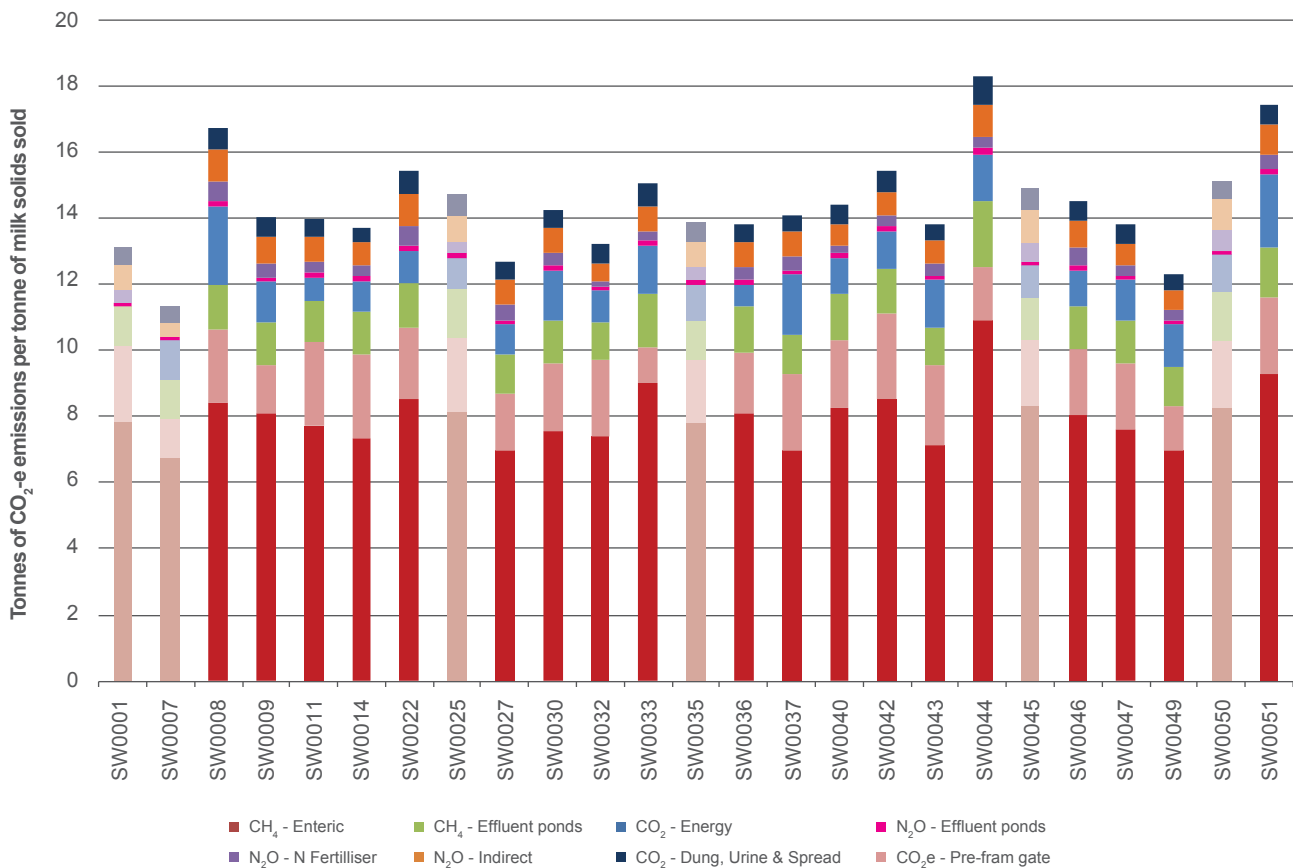
Carbon dioxide emissions were 3.2 t CO₂-e/t MS, 22% of emissions in 2017-18, comprised of 1.2 t CO₂-e/t MS from fossil fuels and 2 t CO₂-e/t MS from pre-farm gate sources.

Nitrous oxide emissions contributed 1.9 t CO₂-e/t MS, 13% of all emissions. Direct emissions from applied nitrogen fertiliser, effluent management systems and animal wastes accounted for 1.1 t CO₂-e/t MS.

The balance of 0.8 t CO₂-e/t MS came from ammonia and nitrate loss in soils as indirect sources.

The average emissions of participant farms in the South West was 2,826 t CO₂-e/farm, similar to the top 25% of farms (2,820 t CO₂-e/farm). However, on per tonne milk solids basis the top 25% of farms had lower emissions of 13.8 t CO₂-e/t MS than the average (4% lower). The emissions of the top 25% came from CH₄ (9.1 t CO₂-e/t MS); CO₂ (2.8 t CO₂-e/t MS) and N₂O (1.9 t CO₂-e/t MS). They had lower emissions across the board than the regional average; more notably CO₂ emissions from energy use (28% lower). This result shows that a farm can generate profit with a smaller greenhouse gas intensity.

FIGURE 50. GREENHOUSE GAS EMISSIONS PER TONNE OF MILK SOLIDS SOLD (CO₂ EQUIVALENT) – SOUTH WEST



Greenhouse gas emissions - Gippsland

Participant farms in Gippsland emitted an average of 14.1 t CO₂-e/t MS in 2017-18, mostly methane from ruminant digestion (58%) and carbon dioxide from purchased feed and fertiliser (12%).

Methane was the main greenhouse gas emitted from participant farms in Gippsland accounting for 9.4 t CO₂-e/t MS, 67% of the average total greenhouse emissions. Methane produced from ruminant digestion contributed 8.1 t CO₂-e/t MS to regional average emissions while CH₄ from effluent ponds accounted for 1.3 t CO₂-e/t MS (Figure 51).

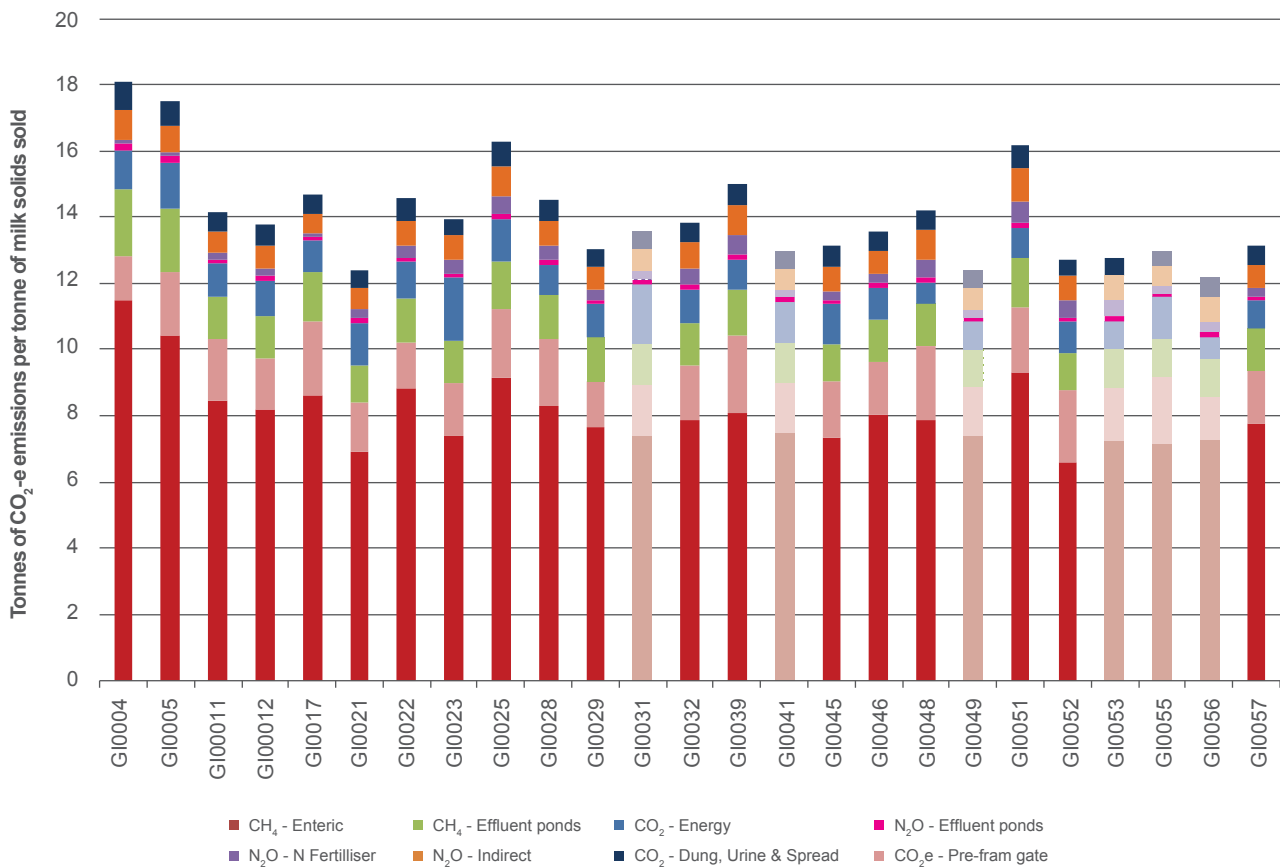
Carbon dioxide accounted for 2.8 t CO₂-e/t MS, 20% of emissions in 2017-18, which comprised 1.1 t CO₂-e/t MS from fossil fuels and 1.7 t CO₂-e/t MS from pre-farm gate sources.

Nitrous oxide contributed 1.8 t CO₂-e/t MS, 13% of all emissions. Direct emissions from applied nitrogen fertiliser, effluent management systems and animal wastes accounted for 1.1 t CO₂-e/t MS. The balance of 0.7 t CO₂-e/t MS came from ammonia and nitrate loss in soils as indirect sources.

The average emissions of participant farms in Gippsland was 1,932 t CO₂-e/farm, slightly lower than the top 25% of farms (1,949 t CO₂-e/farm). However, on per tonne milk solids basis the top 25% of farms had lower emissions of 12.8 t CO₂-e/t MS than the average (9%) because they produced more milk per farm than the average. The emissions came from CH₄ (8.5 t CO₂-e/t MS); CO₂ (2.9 t CO₂-e/t MS) and N₂O (1.6 t CO₂-e/t MS). They emitted less CH₄ and N₂O, but more CO₂.

The emissions of the top 25% came from CH₄ (9.1 t CO₂-e/t MS); CO₂ (2.8 t CO₂-e/t MS) and N₂O (1.9 t CO₂-e/t MS). They had lower emissions across the board than the regional average. This result shows that a farm can generate profit with a smaller greenhouse gas intensity.

FIGURE 51. GREENHOUSE GAS EMISSIONS PER TONNE OF MILK SOLIDS SOLD (CO₂ EQUIVALENT) – GIPPSLAND



A photograph of a large group of cows in a barn. The cows are of various colors, including black, brown, and white. In the foreground, several cows are visible, some with brown and white patches. The cows are standing on a dark, textured floor. The background shows a metal railing and more cows. The text "Part Seven: Historical analysis" is overlaid in the upper right corner.

Part Seven:
**Historical
analysis**

Historical analysis

Dollar values are adjusted to allow comparison between years, however, some farms do not participate each year and care is needed when comparing performance across years.

The 2017-18 season was characteristic of below long-term average rainfall, a hot, dry summer and autumn resulting in increased feed costs while milk price improved. Farm profits across Victorian participating farms in the DFMP were below the 12-year average of the project, however there was notable variation between the regions.

The North

Farm profits in 2017-18 for the North region increased from the previous year and were ranked sixth in real terms over the 12-year history of the project (Figure 52). Northern Victorian farms were rewarded for acting early in the 2017-18 season – applying irrigation water to manage through the summer and autumn periods. Those farms that waited, or had limited cash flow, needed to purchase feed and water allocations at elevated prices later in the season. After the large rain event in December 2017 the season turned hot and on average farms used more irrigation allocations, purchased additional feed and used their fodder reserves. While cows performed well during the year producing 540 kg MS/cow on average, feed

budgets underestimated the feed required this year and additional fodder and irrigation allocations were required. A higher milk price of \$5.87/kg MS relative to the previous season helped increase farm profits.

As a result, average EBIT and net farm income increased to \$185,000 and \$73,000 respectively. The difference between EBIT and net income is interest and lease costs, which increased slightly on the previous year, to \$111,000/farm.

Average RoTA rose to 2.5% and average RoE was 1.2% (Figure 53). The 12-year average for RoTA in the North was 4.0% and RoE was 2.0%.

FIGURE 52. HISTORICAL FARM PROFITABILITY (REAL \$) – NORTH

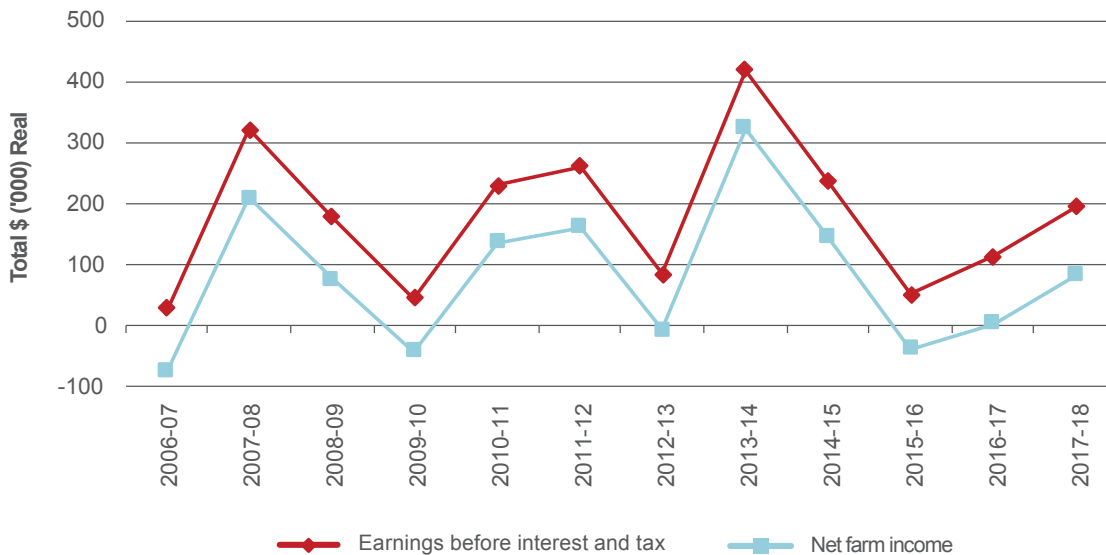
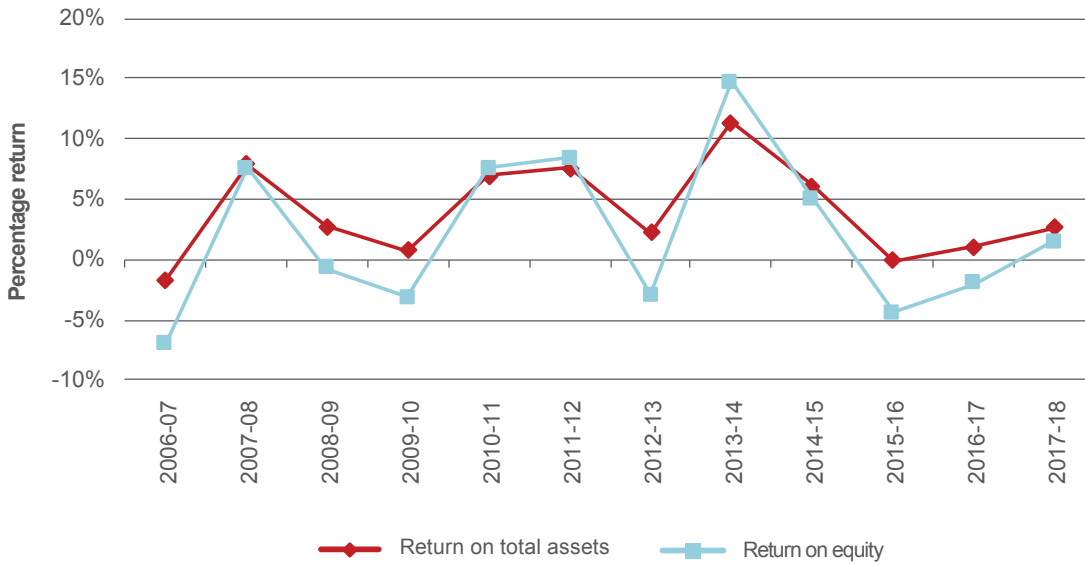


FIGURE 53. HISTORICAL WHOLE FARM PERFORMANCE – NORTH



The South West

Contrary to the trend in profit performance in the North and Gippsland (below), South West farm profits decreased in 2017-18 compared to the previous year. On average, farm performance was the fourth lowest over the history of DFMP.

Increased costs and lower milk production contributed to the lower performance this year. Spring provided opportunities for farms to conserve fodder however, as the dry conditions prevailed, farms fed most of this back and utilised their long-term fodder supplies. South West participants also purchased additional fodder (predominately silage) to supplement the lack of pasture. Additionally, purchased concentrates increased per tonne on average (\$345/t DM up to \$377/t DM) while feeding remained constant at 2 t DM/cow. Milk production per cow and per hectare decreased 4% year on year while milk price provided relief to the seasonal conditions. On average milk price increased 11% from the previous year to \$5.80/kg MS, the seventh highest milk price in real terms.

These conditions led to EBIT and net farm income halving from the previous year and falling to \$145,000/farm and \$23,000/farm, respectively. Interest and lease costs fell to their lowest level over the history of the project, as shown by the diverging lines in (Figure 54). They steadily increased over the first five years of the project until 2011-12, since then average annual interest and lease costs have been declining and in 2017-18 reached an average of \$123,000/farm. South West farms continued to spend the highest amount on interest and lease costs in Victoria. This is due to the higher amount of total liabilities, larger farm sizes and higher value asset base.

In 2017-18, average RoTA was 1.9%, the fourth lowest profit performance (Figure 55). The long-term average was 4%. Average RoE fell into negative values in 2017-18 with an average of negative 1.1%, and below the long-term average of 2.1%. A negative RoE result indicates that farms are worth less than they were a year ago.

FIGURE 54. HISTORICAL FARM PROFITABILITY (REAL \$) – SOUTH WEST

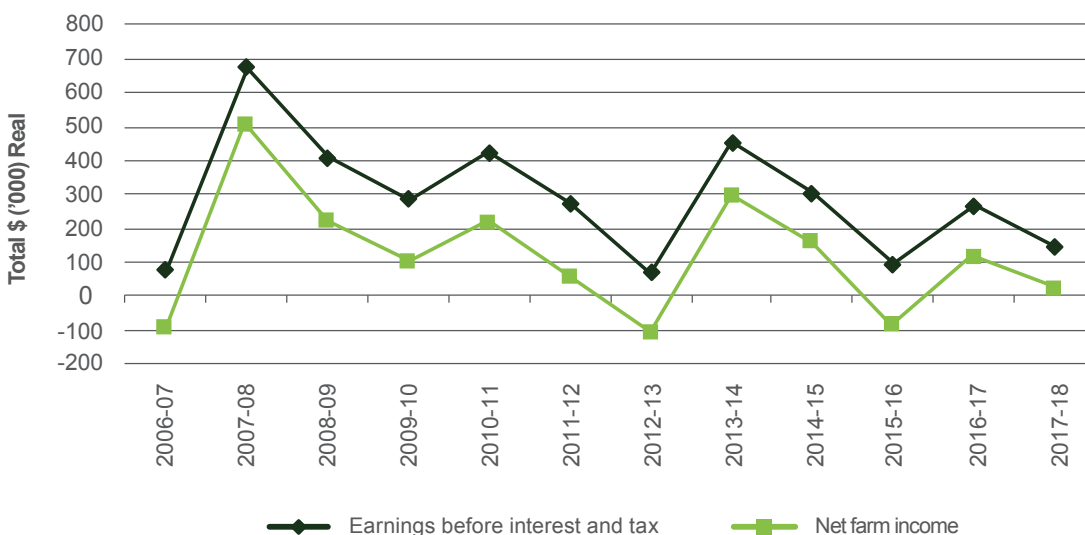


FIGURE 55. HISTORICAL WHOLE FARM PERFORMANCE – SOUTH WEST



Gippsland

Gippsland farm profit performance improved for the second consecutive year in 2017-18, recording the seventh highest performance in the 12-year history of the project.

Gippsland experienced one of the worst growing seasons while farms located in the Macalister Irrigation District (MID) with access to irrigation allocations were somewhat buffered by the dry summer and autumn period. Farmers fed silage earlier than usual and by the end of the year fodder reserves were significantly reduced. As a result, purchased feed and agistment increased 25% to \$1.73/kg MS.

While there were improved market signals for milk, farmers felt they were only one rain away from being a good season and most did not adjust their production as the season deteriorated. Milk price recovered considerably this year to increase by 19% to \$5.74/kg MS from \$4.84/kg MS last year, following three years of lower

prices. However, as the dry conditions persisted, and good rainfall events did not eventuate, farmers utilised their fodder reserves and purchased additional fodder; more than they were planning to.

Average EBIT increased slightly from the previous year to \$147,000/farm and net farm income increased to \$24,000/farm (Figure 56). These results rank as the seventh highest in the history of the project. The difference between EBIT and net farm income is interest and lease costs. The average amount spent on interest and lease costs decreased only \$1,500/farm, down to \$94,000/farm.

Despite the dry seasonal conditions, an improved milk price helped lift RoTA to 3.0% and RoE to 1.0% (Figure 57). The long-term average for these indicators were 3.8% and 3.3% respectively.

FIGURE 56. HISTORICAL FARM PROFITABILITY (REAL \$) – GIPPSLAND

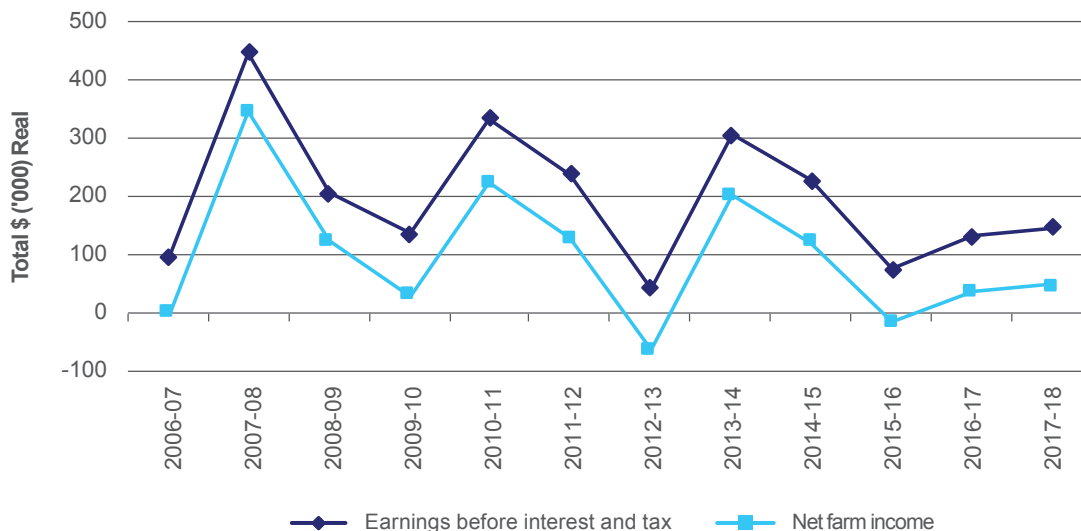
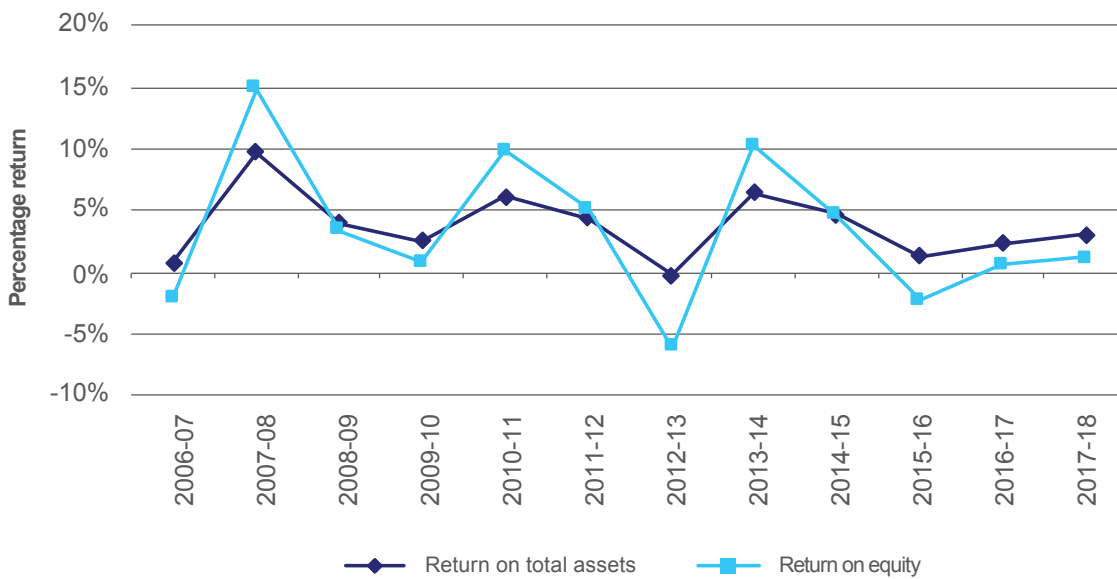


FIGURE 57. HISTORICAL WHOLE FARM PERFORMANCE – GIPPSLAND



Regional comparison

While average profits across the state show similar profit performance compared to the previous year, there are notable differences between the regions. The North and Gippsland regions experienced improved profit performance in 2017-18, while the South West had a sharp decrease (Figures 58 to 61).

Victorian annual rainfall was below long-term average rainfall, while sporadic rainfall events led to challenges in managing pastures. Generally, summer and autumn periods were significantly drier, with annual rainfall totals being boosted in December in Gippsland and the North. All regions experienced a reasonable or wet spring period followed by a long, dry, hot summer. Fodder reserves across all three regions were reduced significantly, with home grown sources of feed also reducing as part of the diet. Farms that were able to access reasonably priced feed with the improved milk price were able to manage the season.

In 2017-18, milk price improved 15% on average, increasing to \$5.81/kg MS, from \$5.07/kg MS the previous year and was the seventh highest over the history of the project.

The highest profit performance on average was the North, recording the highest EBIT, net farm income and RoE (Figures 58 to 61). This performance was the sixth highest over the 12-year history of the project and similar to those profits recorded in 2008-09. In 2008-09,

seasonal conditions were difficult with below average rainfall, reduced allocations and availability and cost of supplementary feed compounded farm returns. The drop in milk price following the global financial crisis also occurred in 2008-09.

The next highest performing region was Gippsland, which recorded the highest RoTA in 2017-18 (Figure 60). Milk price recovered considerably this season to increase by 19% to \$5.74/kg MS from \$4.84/kg MS last year, following three years of continual reductions. The large improvement in milk price experienced this year was met with challenging seasonal conditions and increased feed costs. Farm profits were the seventh highest over the 12-year history of the project and similar to 2016-17 and 2009-10.

The South West region recorded the lowest performance across all profit indicators (Figure 58 to 61) excluding EBIT. The wet spring conditions followed a prolonged dry period over summer and autumn which placed additional costs on farms with increases in feed at elevated prices and drawing down of fodder reserves. While milk price improved 11% on the previous year to \$5.80/kg MS, it did not increase to the same extent (an increase of \$0.56/kg MS) as the other regions (Gippsland increased \$0.91/kg MS, and the North increased \$0.75/kg MS). Milk price in the South West this year was below the long term average (\$6.19/kg MS, real) and was the seventh highest in the history of the project.

FIGURE 58. REGIONAL HISTORICAL EARNINGS BEFORE INTEREST AND TAX (REAL \$)

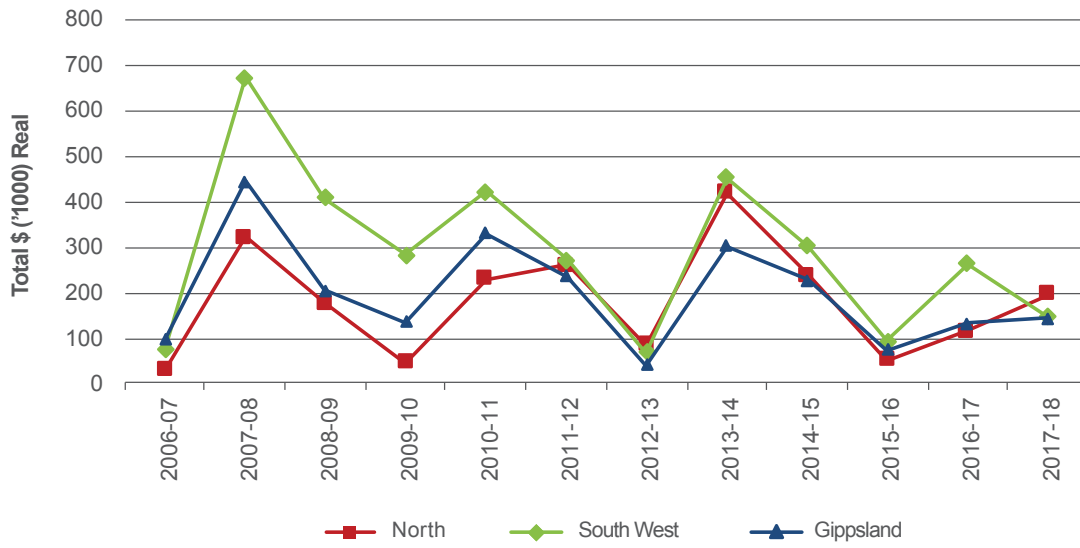


FIGURE 59. REGIONAL HISTORICAL NET FARM INCOME (REAL \$)



FIGURE 60. REGIONAL HISTORICAL RETURN ON TOTAL ASSETS



FIGURE 61. REGIONAL HISTORICAL RETURN ON EQUITY



Appendices



TABLE A1
Main financial indicators - Statewide

Farm number	Milk income (net)	All other farm income	Gross farm income	Total variable costs	Total overhead costs	Cost structure (variable costs / total costs)	Earnings Before Interest and Tax	Return on total assets (excl. capital apprec.)	Interest and lease charges	Debt servicing ratio	Net farm income	Return on equity
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	%	\$/ KG MS	%	\$/ KG MS	(% OF INCOME)	\$/ KG MS	%
Average	\$5.81	\$0.60	\$6.41	\$3.46	\$2.29	60%	\$0.66	2.5%	\$0.61	10%	\$0.05	0.4%
Top 25%	\$6.00	\$0.70	\$6.70	\$3.12	\$1.93	62%	\$1.65	6.5%	\$0.49	8%	\$1.14	8.7%

* Top 25% are bold and italicised.

TABLE A2
Physical information - Statewide

Farm number	Total usable area	Milking area	Total water use efficiency	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Fat	Protein
	HA	HA	T DM/100MM	COWS	COWS/HA	KG MS/ COW	KG MS/ HA	%	%
Average	264	166	0.7	352	1.5	503	752	4.2%	3.5%
Top 25%*	278	183	0.8	391	1.7	530	891	4.2%	3.5%

Farm number	Estimated grazed pasture**	Estimated conserved feed**	Home grown feed as % of ME consumed	Nitrogen application	Phosphorous application	Potassium application	Sulphur application	Labour efficiency	Labour efficiency
	T DM/ HA	T DM/ HA	% OF ME	KG/ HA	KG/ HA	KG/ HA	KG/ HA	COWS/ FTE	KG MS/ FTE
Average	6.1	1.5	62%	125	15	28	16	106	52,988
Top 25%*	7.4	1.8	63%	154	13	29	13	122	62,745

**on milking area.

TABLE A3
Purchased feed - Statewide

Farm number	Purchased feed per milker**	Concentrate price	Silage price	Hay price	Other feed price	Average purchased feed price	Purchased feed as % of ME consumed
	T DM/ COW	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	% OF ME
Average	2.4	\$373	\$193	\$251	\$339	\$345	38%
Top 25%*	2.4	\$365				\$335	37%

** All purchased feed including concentrates, hay, silage and other feed fed on the milking area to all classes of livestock divided by the number of cows.

TABLE A4

Variable costs - Statewide

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
Average	\$0.13	\$0.13	\$0.05	\$0.12	\$0.10	\$0.53	\$0.36	\$0.16	\$0.20
Top 25%*	\$0.13	\$0.13	\$0.04	\$0.11	\$0.10	\$0.51	\$0.32	\$0.18	\$0.12

Farm number	Fuel and oil	Pasture improvement/cropping	Other feed costs	Fodder purchases	Grain/concentrates/other	Agistment costs	Feed and water inventory change	Total feed costs	Total variable costs
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
Average	\$0.11	\$0.18	\$0.04	\$0.27	\$1.40	\$0.07	\$0.13	\$2.93	\$3.46
Top 25%*	\$0.08	\$0.12	\$0.04	\$0.19	\$1.38	\$0.11	\$0.07	\$2.61	\$3.12

TABLE A5

Overhead costs - Statewide

Farm number	Rates	Farm Insurance	Motor vehicle expenses	Repairs and maintenance	Other overheads	Employed labour	Total cash overheads	Depreciation	Imputed labour cost	Total overheads
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
Average	\$0.06	\$0.07	\$0.03	\$0.34	\$0.12	\$0.56	\$1.18	\$0.24	\$0.87	\$2.29
Top 25%*	\$0.05	\$0.05	\$0.02	\$0.30	\$0.12	\$0.67	\$1.20	\$0.23	\$0.49	\$1.93

TABLE A6

Variable costs % - Statewide

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
Average	2.3%	2.3%	0.9%	2.1%	1.7%	9.3%	6.4%	2.9%	3.4%
Top 25%*	2.5%	2.6%	0.9%	2.3%	1.9%	10.2%	6.7%	3.5%	2.5%

Farm number	Fuel and oil	Pasture improvement/cropping	Other feed costs	Fodder purchases	Grain/concentrates/other	Agistment costs	Feed and water inventory change	Total feed costs	Total variable costs
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
Average	1.8%	3.1%	0.7%	4.6%	24.6%	1.3%	2.2%	51.0%	60.3%
Top 25%*	1.5%	2.3%	0.8%	3.6%	27.2%	2.1%	1.4%	51.5%	61.7%

TABLE A7

Overhead costs - Statewide

Farm number	Rates	Farm Insurance	Motor vehicle expenses	Repairs and maintenance	Other overheads	Employed labour	Total cash overheads	Depreciation	Imputed labour cost	Total overheads
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
Average	1.1%	1.2%	0.5%	5.9%	2.2%	9.9%	20.8%	4.1%	14.8%	39.7%
Top 25%*	0.9%	1.0%	0.3%	5.9%	2.4%	12.9%	23.5%	4.6%	10.1%	38.3%

TABLE A8
Capital Structure - Statewide

Farm Assets					Other farm assets (per usable hectare)				Total assets \$/HA
Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets		
\$/HA	\$/COW	\$/HA	\$/COW	\$/HA	\$/HA	\$/HA	\$/HA		
Average	\$12,553	\$8,126	\$2,356	\$1,342	\$1,005	\$3,251	\$166	\$532	\$18,423
Top 25%*	\$10,502	\$7,160	\$2,556	\$1,167	\$978	\$3,721	\$173	\$646	\$18,777

Liabilities				Equity			
Liabilities per usable hectare		Liabilities per milking cow		Equity per usable hectare		Average equity	
\$/HA		\$/COW		\$/HA		%	
Average		\$6,808		\$4,657		\$11,615	63%
Top 25%*		\$6,873		\$4,190		\$11,904	65%

TABLE A9
Historical Data - Statewide

	Income				Variable costs							
	Milk income (net)		Gross farm income		Herd costs		Shed costs		Feed costs		Total variable costs	
	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)
2006-07	\$4.46	\$5.75	\$5.23	\$6.74	\$0.21	\$0.27	\$0.15	\$0.19	\$2.83	\$3.65	\$3.23	\$4.17
2007-08	\$6.57	\$8.10	\$7.80	\$9.63	\$0.24	\$0.29	\$0.14	\$0.17	\$3.39	\$4.18	\$3.79	\$4.68
2008-09	\$5.35	\$6.50	\$6.08	\$7.39	\$0.23	\$0.28	\$0.15	\$0.18	\$2.85	\$3.47	\$3.23	\$3.92
2009-10	\$4.46	\$5.27	\$5.17	\$6.09	\$0.22	\$0.26	\$0.16	\$0.19	\$2.20	\$2.60	\$2.58	\$3.04
2010-11	\$5.64	\$6.42	\$6.47	\$7.36	\$0.26	\$0.30	\$0.18	\$0.21	\$2.27	\$2.58	\$2.71	\$3.09
2011-12	\$5.52	\$6.21	\$5.97	\$6.72	\$0.26	\$0.29	\$0.19	\$0.21	\$2.33	\$2.62	\$2.78	\$3.12
2012-13	\$4.90	\$5.38	\$5.25	\$5.77	\$0.27	\$0.30	\$0.22	\$0.25	\$2.59	\$2.84	\$3.08	\$3.39
2013-14	\$6.79	\$7.24	\$7.44	\$7.94	\$0.28	\$0.29	\$0.22	\$0.23	\$2.90	\$3.09	\$3.39	\$3.62
2014-15	\$6.04	\$6.35	\$6.61	\$6.95	\$0.29	\$0.31	\$0.20	\$0.21	\$2.90	\$3.05	\$3.39	\$3.56
2015-16	\$5.40	\$5.62	\$5.90	\$6.14	\$0.28	\$0.29	\$0.19	\$0.20	\$3.15	\$3.28	\$3.62	\$3.77
2016-17	\$5.07	\$5.18	\$5.80	\$5.93	\$0.29	\$0.30	\$0.20	\$0.20	\$2.40	\$2.46	\$2.89	\$2.95
2017-18	\$5.81	\$5.81	\$6.41	\$6.41	\$0.31	\$0.31	\$0.22	\$0.22	\$2.93	\$2.93	\$3.46	\$3.46
Average		\$6.15		\$6.92		\$0.29		\$0.20		\$3.06		\$3.57

Notes: *Real dollar values are the nominal values converted to 2017-18 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.

	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		Return on total assets	Return on equity
	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	%	%
2006-07	\$0.77	\$0.99	\$1.17	\$1.51	\$1.94	\$2.50	\$0.06	\$0.07	\$0.58	\$0.74	-\$0.52	-\$0.67	0.1%	-4.1%
2007-08	\$0.84	\$1.04	\$0.88	\$1.09	\$1.62	\$2.01	\$2.39	\$2.94	\$0.63	\$0.78	\$1.75	\$2.16	9.8%	12.4%
2008-09	\$0.82	\$1.00	\$0.88	\$1.07	\$1.70	\$2.07	\$1.08	\$1.31	\$0.59	\$0.71	\$0.49	\$0.60	3.8%	2.2%
2009-10	\$0.84	\$0.99	\$1.05	\$1.23	\$1.89	\$2.22	\$0.65	\$0.77	\$0.68	\$0.80	-\$0.03	-\$0.03	2.2%	-0.3%
2010-11	\$1.00	\$1.14	\$1.02	\$1.16	\$2.02	\$2.30	\$1.73	\$1.97	\$0.76	\$0.86	\$0.98	\$1.11	6.2%	7.8%
2011-12	\$0.99	\$1.11	\$1.07	\$1.20	\$2.06	\$2.31	\$1.14	\$1.29	\$0.71	\$0.80	\$0.43	\$0.49	5.0%	4.4%
2012-13	\$0.99	\$1.09	\$1.09	\$1.19	\$2.08	\$2.28	\$0.09	\$0.10	\$0.70	\$0.76	-\$0.60	-\$0.66	0.7%	-7.3%
2013-14	\$1.05	\$1.12	\$0.97	\$1.04	\$2.03	\$2.16	\$2.02	\$2.16	\$0.65	\$0.69	\$1.38	\$1.47	8.5%	11.6%
2014-15	\$1.08	\$1.13	\$0.90	\$0.94	\$1.97	\$2.07	\$1.25	\$1.31	\$0.60	\$0.63	\$0.64	\$0.68	5.3%	5.2%
2015-16	\$1.07	\$1.11	\$1.03	\$1.07	\$2.10	\$2.18	\$0.18	\$0.19	\$0.59	\$0.62	-\$0.41	-\$0.43	0.6%	-3.2%
2016-17	\$1.09	\$1.12	\$1.06	\$1.09	\$2.16	\$2.20	\$0.75	\$0.77	\$0.63	\$0.65	\$0.12	\$0.12	2.5%	1.0%
2017-18	\$1.18	\$1.18	\$1.11	\$1.11	\$2.29	\$2.29	\$0.66	\$0.66	\$0.61	\$0.61	\$0.05	\$0.05	2.5%	0.4%
Average		\$1.09		\$1.14		\$2.22		\$1.13		\$0.72		\$0.41	3.9%	2.5%

TABLE A10

Historical Data - Statewide

	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	
	HA	HA	T DM/ 100MM/ HA	COWS	COWS/HA	KG MS/ COW	KG MS/ HA	T DM/ HA	T DM/ HA	% OF ME	NOMINAL (\$/T DM)	"REAL (\$/ T DM)"
2006-07	271	268	0.8	345	1.4	447	636	4.9	1.0	60%	\$329	\$424
2007-08	265	250	0.8	332	1.3	489	612	4.8	1.0	64%	\$425	\$525
2008-09	256	237	0.8	330	1.5	498	741	5.6	0.9	62%	\$375	\$456
2009-10	232	219	0.8	307	1.5	496	752	6.2	0.8	66%	\$273	\$322
2010-11	236	227	0.7	305	1.4	493	719	5.8	1.9	65%	\$301	\$343
2011-12	237	160	0.7	328	1.6	508	800	6.2	1.0	57%	\$296	\$333
2012-13	232	154	0.8	323	1.6	495	781	6.2	1.2	58%	\$336	\$370
2013-14	242	157	0.8	335	1.6	498	810	6.6	1.4	62%	\$388	\$414
2014-15	248	160	0.9	350	1.6	514	845	6.5	1.2	59%	\$405	\$426
2015-16	252	162	0.7	345	1.6	511	818	5.8	1.2	53%	\$402	\$418
2016-17	268	166	0.7	342	1.5	503	748	6.5	1.6	65%	\$335	\$343
2017-18	264	166	0.7	352	1.5	503	752	6.1	1.5	62%	\$373	\$373
Average	250	194	0.8	333	1.5	496	751	5.9	1.2	61%		\$396

* From 2006-07 to 2010-11 estimated grazed pasture and conserved feed was calculated per usable hectare.
From 2011-12 estimated grazed pasture and conserved feed was calculated per hectare of milking area.

TABLE B1
Main financial indicators - North

Farm number	Milk income (net)	All other farm income	Gross farm income	Total variable costs	Total overhead costs	Cost structure (variable costs / total costs)	Earnings Before Interest and Tax	Return on total assets (excl. capital apprec.)	Interest and lease charges	Debt servicing ratio	Net farm income	Return on equity
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	%	\$/ KG MS	%	\$/ KG MS	% OF INCOME	\$/ KG MS	%
NO0012	\$6.08	\$0.78	\$6.87	\$3.77	\$1.88	67%	\$1.23	4.8%	\$0.23	3.3%	\$1.00	4.9%
NO0014	\$6.00	\$0.98	\$6.98	\$2.89	\$2.62	52%	\$1.48	5.1%	\$0.65	9.3%	\$0.83	4.7%
NO0015	\$5.62	\$0.79	\$6.41	\$4.01	\$1.97	67%	\$0.43	1.1%	\$0.55	8.6%	-\$0.12	-0.4%
NO0022	\$5.62	\$0.61	\$6.23	\$2.91	\$1.83	61%	\$1.48	4.6%	\$0.30	4.8%	\$1.18	4.8%
NO0023	\$5.62	\$0.62	\$6.25	\$3.71	\$1.90	66%	\$0.64	3.5%	\$0.37	5.9%	\$0.28	2.6%
NO0039	\$5.58	\$0.42	\$6.01	\$3.94	\$2.08	65%	-\$0.02	-0.1%	\$0.40	6.7%	-\$0.42	-3.7%
NO0040	\$5.61	\$0.36	\$5.96	\$4.21	\$2.32	64%	-\$0.56	-3.6%	\$0.29	4.8%	-\$0.85	-9.3%
NO0041	\$5.98	\$0.61	\$6.59	\$3.66	\$1.68	69%	\$1.24	4.7%	\$0.69	10.4%	\$0.56	7.5%
NO0043	\$5.53	\$1.07	\$6.60	\$4.84	\$3.01	62%	-\$1.25	-3.6%	\$1.11	16.8%	-\$2.36	-13.4%
NO0046	\$5.63	\$0.59	\$6.22	\$3.46	\$2.23	61%	\$0.53	2.7%	\$0.55	8.9%	-\$0.02	-0.2%
NO0054	\$6.14	\$0.86	\$7.00	\$4.19	\$1.85	69%	\$0.95	3.9%	\$0.61	8.8%	\$0.34	3.0%
NO0056	\$5.98	\$0.56	\$6.54	\$3.97	\$2.10	65%	\$0.48	1.4%	\$0.65	9.9%	-\$0.17	-1.4%
NO0059	\$6.00	\$0.61	\$6.61	\$3.88	\$1.45	73%	\$1.28	7.1%	\$0.80	12.1%	\$0.48	8.4%
NO0060	\$5.87	\$0.66	\$6.54	\$4.11	\$2.20	65%	\$0.23	0.9%	\$0.61	9.4%	-\$0.39	-3.3%
NO0061	\$5.66	\$0.55	\$6.21	\$3.60	\$2.28	61%	\$0.33	1.0%	\$0.23	3.6%	\$0.10	0.4%
NO0062	\$6.08	\$0.58	\$6.67	\$4.31	\$1.63	73%	\$0.73	3.1%	\$0.42	6.3%	\$0.31	2.1%
NO0064	\$5.93	\$0.70	\$6.63	\$4.00	\$1.86	68%	\$0.77	3.1%	\$0.24	3.7%	\$0.53	3.4%
NO0065	\$6.13	\$0.78	\$6.91	\$3.88	\$1.60	71%	\$1.44	6.6%	\$0.49	7.1%	\$0.95	17.7%
NO0068	\$6.35	\$0.67	\$7.01	\$2.75	\$1.59	63%	\$2.67	8.6%	\$1.19	16.9%	\$1.48	17.5%
NO0069	\$5.71	\$0.52	\$6.24	\$3.52	\$2.60	57%	\$0.12	0.4%	\$0.34	5.4%	-\$0.22	-1.0%
NO0070	\$5.57	\$0.57	\$6.13	\$3.48	\$2.84	55%	-\$0.18	-0.7%	\$0.88	14.4%	-\$1.06	-9.3%
NO0071	\$6.08	\$1.29	\$7.37	\$4.38	\$2.27	66%	\$0.72	2.9%	\$0.57	7.8%	\$0.15	1.3%
NO0072	\$5.95	\$0.64	\$6.59	\$3.18	\$3.15	50%	\$0.26	0.7%	\$0.00	0.0%	\$0.26	0.8%
NO0073	\$6.13	\$0.62	\$6.75	\$3.08	\$2.09	60%	\$1.58	5.7%	\$0.42	6.3%	\$1.16	6.5%
NO0074	\$5.99	\$0.32	\$6.32	\$4.13	\$2.46	63%	-\$0.27	-0.9%	\$1.15	18.1%	-\$1.41	-13.9%
Average	\$5.87	\$0.67	\$6.55	\$3.75	\$2.14	64%	\$0.65	2.5%	\$0.55	8.4%	\$0.10	1.2%
Top 25%*	\$6.12	\$0.74	\$6.86	\$3.37	\$1.87	64%	\$1.61	6.3%	\$0.63	9.2%	\$0.98	10.0%

* Top 25% are bold and italicised.

TABLE B2

Physical information - North

Farm number	Total usable area	Milking area	Total water use efficiency	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Fat	Protein
	HA	HA	T DM/ 100MM	COWS	COWS/HA	KG MS/ COW	KG MS/ HA	%	%
NO0012	472	372	0.9	820	1.7	599	1,041	3.9%	3.4%
NO0014	496	300	0.7	440	0.9	548	486	3.7%	3.2%
NO0015	248	92	0.6	313	1.3	459	579	4.3%	3.7%
NO0022	226	105	0.9	310	1.4	514	705	4.5%	3.5%
NO0023	342	155	0.7	400	1.2	519	607	4.3%	3.5%
NO0039	90	70	0.7	295	3.3	478	1,567	4.3%	3.7%
NO0040	98	98	0.7	195	2.0	619	1,234	4.2%	3.5%
NO0041	217	153	0.6	325	1.5	599	897	4.0%	3.4%
NO0043	171	144	0.9	206	1.2	411	496	4.6%	3.5%
NO0046	117	102	0.8	280	2.4	569	1,362	4.3%	3.6%
NO0054	1,131	310	0.8	1,240	1.1	687	753	3.9%	3.3%
NO0056	264	90	0.7	260	1.0	638	628	3.8%	3.3%
NO0059	295	75	0.5	289	1.0	561	550	4.1%	3.5%
NO0060	218	158	0.6	400	1.8	526	966	4.0%	3.5%
NO0061	205	114	0.8	285	1.4	515	715	4.1%	3.4%
NO0062	205	125	0.7	265	1.3	533	689	4.2%	3.5%
NO0064	289	254	0.7	650	2.2	468	1,053	4.6%	3.7%
NO0065	153	108	0.6	330	2.2	628	1,357	4.0%	3.4%
NO0068	353	277	1.1	827	2.3	358	839	4.4%	3.7%
NO0069	162	100	0.7	205	1.3	536	678	4.8%	3.7%
NO0070	122	110	0.6	265	2.2	424	924	4.8%	3.9%
NO0071	174	80	0.9	264	1.5	538	818	3.8%	3.3%
NO0072	195	57	0.9	188	1.0	561	541	4.1%	3.5%
NO0073	389	230	0.4	390	1.0	582	584	3.7%	3.3%
NO0074	84	52	0.8	145	1.7	512	884	3.8%	3.2%
Average	269	149	0.7	383	1.6	535	838	4.2%	3.5%
Top 25%*	360	227	0.7	516	1.5	546	809	4.0%	3.4%

Farm number	Estimated grazed pasture**	Estimated conserved feed**	Home grown feed as % of ME consumed	Nitrogen application	Phosphorous application	Potassium application	Sulphur application	Labour efficiency	Labour efficiency
	T DM/ HA	T DM/ HA	% OF ME	KG/ HA	KG/ HA	KG/ HA	KG/ HA	COWS/ FTE	KG MS/ FTE
NO0012	7.1	2.4	60%	81	22	2	32	127	76,276
NO0014	3.2	3.2	63%	101	25	5	23	74	40,621
NO0015	6.0	0.0	63%	45	10	0	10	115	52,737
NO0022	9.4	0.4	74%	29	16	0	7	124	63,630
NO0023	5.3	0.4	61%	32	13	8	7	106	55,151
NO0039	9.4	0.0	40%	149	7	2	0	108	51,841
NO0040	4.5	1.0	40%	144	0	0	14	69	42,715
NO0041	5.5	0.6	56%	42	12	0	26	105	63,064
NO0043	6.9	0.0	68%	6	0	0	7	106	43,534
NO0046	7.4	2.3	50%	124	32	31	86	92	52,241
NO0054	4.4	0.0	47%	121	37	11	17	102	70,344
NO0056	9.4	0.6	64%	107	27	29	22	74	46,904
NO0059	9.1	0.0	55%	20	12	1	6	108	60,801
NO0060	4.9	2.0	41%	136	7	0	1	87	45,620
NO0061	7.6	0.4	74%	67	23	4	27	97	50,165
NO0062	5.2	1.5	59%	71	25	7	16	132	70,273
NO0064	7.3	1.9	63%	189	30	6	25	156	72,879
NO0065	10.3	2.7	53%	171	9	0	1	102	64,011
NO0068	12.0	1.3	93%	388	39	10	47	215	76,984
NO0069	6.2	0.6	61%	33	28	52	13	77	41,414
NO0070	5.6	1.2	56%	115	19	4	15	124	52,547
NO0071	6.1	1.1	55%	105	16	17	32	113	60,905
NO0072	8.9	0.8	64%	53	6	18	8	64	35,859
NO0073	6.6	2.9	67%	129	8	30	10	107	62,375
NO0074	7.0	1.1	50%	82	13	0	1	76	39,084
Average	7.0	1.4	59%	102	17	9	18	106	55,679
Top 25%*	8.1	2.5	65%	148	19	8	20	122	63,511

** on milking area.

TABLE B3
Purchased feed - North

Farm number	Purchased feed per milker**	Concentrate price	Silage price	Hay price	Other feed price	Average purchased feed price	Purchased feed as % of ME consumed
	T DM/ COW	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	% OF ME
NO0012	3.0	\$381		\$131	\$153	\$299	40%
NO0014	2.8	\$287		\$196		\$258	37%
NO0015	2.2	\$254		\$403		\$286	37%
NO0022	1.6	\$433		\$219		\$424	26%
NO0023	2.9	\$341		\$140		\$316	39%
NO0039	3.0	\$298		\$278		\$287	60%
NO0040	4.5	\$407		\$297		\$357	60%
NO0041	3.2	\$424		\$175		\$353	44%
NO0043	2.6	\$292		\$282		\$288	32%
NO0046	3.5	\$322	\$188	\$239		\$269	50%
NO0054	3.7	\$386		\$154		\$362	53%
NO0056	2.6	\$376		\$237		\$369	36%
NO0059	3.2	\$436		\$270		\$378	45%
NO0060	3.2	\$341	\$220	\$211	\$108	\$276	59%
NO0061	1.5	\$318				\$318	26%
NO0062	2.3	\$392		\$265		\$345	41%
NO0064	2.2	\$324	\$125	\$277		\$298	37%
NO0065	3.6	\$423	\$323	\$199		\$350	47%
NO0068	0.3	\$245		\$129		\$215	7%
NO0069	2.9	\$438		\$232	\$212	\$334	39%
NO0070	2.1	\$182	\$180	\$196		\$186	44%
NO0071	2.9	\$354	\$17	\$157		\$291	45%
NO0072	2.4	\$309		\$304		\$308	36%
NO0073	2.0	\$335		\$170		\$305	33%
NO0074	3.6	\$493		\$210		\$338	50%
Average	2.7	\$352	\$175	\$224	\$158	\$312	41%
Top 25%*	2.5	\$351				\$301	35%

** All purchased feed including concentrates, hay, silage and other feed fed on the milking area to all classes of livestock divided by the number of cows.

TABLE B4

Variable costs - North

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
NO0012	\$0.16	\$0.18	\$0.08	\$0.09	\$0.09	\$0.60	\$0.32	\$0.20	\$0.25
NO0014	\$0.10	\$0.14	\$0.05	\$0.12	\$0.12	\$0.53	\$0.39	\$0.01	\$0.02
NO0015	\$0.13	\$0.12	\$0.03	\$0.04	\$0.06	\$0.38	\$0.22	\$0.51	\$0.77
NO0022	\$0.09	\$0.11	\$0.03	\$0.15	\$0.05	\$0.43	\$0.14	\$0.55	\$0.05
NO0023	\$0.12	\$0.08	\$0.02	\$0.11	\$0.06	\$0.39	\$0.32	\$0.41	\$0.11
NO0039	\$0.12	\$0.16	\$0.03	\$0.10	\$0.07	\$0.48	\$0.20	\$0.34	\$0.00
NO0040	\$0.12	\$0.14	\$0.03	\$0.12	\$0.08	\$0.49	\$0.13	\$0.25	\$0.14
NO0041	\$0.17	\$0.15	\$0.02	\$0.10	\$0.03	\$0.48	\$0.13	\$0.24	\$0.08
NO0043	\$0.14	\$0.16	\$0.05	\$0.21	\$0.19	\$0.76	\$0.03	\$0.71	\$0.12
NO0046	\$0.17	\$0.08	\$0.03	\$0.14	\$0.08	\$0.50	\$0.23	\$0.55	\$0.12
NO0054	\$0.23	\$0.19	\$0.01	\$0.09	\$0.06	\$0.58	\$0.37	\$0.22	\$0.42
NO0056	\$0.31	\$0.13	\$0.02	\$0.12	\$0.05	\$0.62	\$0.35	\$0.45	\$0.31
NO0059	\$0.09	\$0.05	\$0.01	\$0.14	\$0.06	\$0.35	\$0.09	\$0.71	\$0.20
NO0060	\$0.19	\$0.16	\$0.20	\$0.10	\$0.06	\$0.71	\$0.18	\$0.40	\$0.12
NO0061	\$0.12	\$0.11	\$0.01	\$0.10	\$0.08	\$0.42	\$0.33	\$1.08	\$0.08
NO0062	\$0.19	\$0.08	\$0.01	\$0.11	\$0.14	\$0.53	\$0.27	\$0.40	\$0.39
NO0064	\$0.09	\$0.20	\$0.07	\$0.15	\$0.14	\$0.66	\$0.35	\$0.42	\$0.10
NO0065	\$0.11	\$0.14	\$0.02	\$0.09	\$0.16	\$0.53	\$0.19	\$0.45	\$0.14
NO0068	\$0.08	\$0.15	\$0.08	\$0.09	\$0.05	\$0.46	\$0.88	\$0.55	\$0.16
NO0069	\$0.27	\$0.03	\$0.03	\$0.08	\$0.06	\$0.48	\$0.29	\$0.54	\$0.15
NO0070	\$0.23	\$0.13	\$0.03	\$0.12	\$0.15	\$0.65	\$0.30	\$0.25	\$0.08
NO0071	\$0.16	\$0.16	\$0.05	\$0.11	\$0.10	\$0.58	\$0.39	\$0.55	\$0.40
NO0072	\$0.17	\$0.16	\$0.03	\$0.10	\$0.09	\$0.54	\$0.27	\$0.14	\$0.36
NO0073	\$0.16	\$0.11	\$0.25	\$0.14	\$0.09	\$0.75	\$0.42	\$0.10	\$0.22
NO0074	\$0.31	\$0.13	\$0.09	\$0.12	\$0.09	\$0.74	\$0.11	\$0.26	\$0.17
Average	\$0.16	\$0.13	\$0.05	\$0.11	\$0.09	\$0.55	\$0.28	\$0.41	\$0.20
Top 25%*	\$0.12	\$0.13	\$0.08	\$0.11	\$0.10	\$0.54	\$0.38	\$0.34	\$0.16

Farm number	Fuel and oil	Pasture improvement/cropping	Other feed costs	Fodder purchases	Grain/concentrates/other	Agistment costs	Feed and water inventory change	Total feed costs	Total variable costs
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
NO0012	\$0.10	\$0.21	\$0.01	\$0.15	\$1.44	\$0.36	\$0.12	\$3.16	\$3.77
NO0014	\$0.13	\$0.18	\$0.23	\$0.40	\$1.23	\$0.00	-\$0.24	\$2.36	\$2.89
NO0015	\$0.15	\$0.23	\$0.00	\$0.42	\$0.98	\$0.00	\$0.36	\$3.63	\$4.01
NO0022	\$0.05	\$0.27	\$0.00	\$0.03	\$1.32	\$0.00	\$0.07	\$2.48	\$2.91
NO0023	\$0.06	\$0.35	\$0.01	\$0.08	\$1.16	\$0.01	\$0.59	\$3.32	\$3.71
NO0039	\$0.08	\$0.10	\$0.02	\$1.19	\$1.16	\$0.28	\$0.11	\$3.46	\$3.94
NO0040	\$0.04	\$0.16	\$0.10	\$0.94	\$1.52	\$0.11	\$0.33	\$3.71	\$4.21
NO0041	\$0.05	\$0.24	\$0.01	\$0.26	\$1.56	\$0.12	\$0.51	\$3.19	\$3.66
NO0043	\$0.17	\$0.80	\$0.00	\$0.60	\$0.98	\$0.00	\$0.66	\$4.08	\$4.84
NO0046	\$0.09	\$0.18	\$0.00	\$0.58	\$0.89	\$0.06	\$0.26	\$2.96	\$3.46
NO0054	\$0.08	\$0.30	\$0.04	\$0.09	\$1.84	\$0.21	\$0.05	\$3.62	\$4.19
NO0056	\$0.13	\$0.31	\$0.02	\$0.05	\$1.43	\$0.00	\$0.29	\$3.34	\$3.97
NO0059	\$0.05	\$0.08	\$0.10	\$0.58	\$1.72	\$0.00	\$0.01	\$3.53	\$3.88
NO0060	\$0.15	\$0.14	\$0.00	\$0.79	\$1.41	\$0.10	\$0.11	\$3.40	\$4.11
NO0061	\$0.16	\$0.13	\$0.10	\$0.00	\$0.94	\$0.03	\$0.32	\$3.18	\$3.60
NO0062	\$0.12	\$0.33	\$0.00	\$0.48	\$1.22	\$0.37	\$0.19	\$3.78	\$4.31
NO0064	\$0.10	\$0.23	\$0.30	\$0.41	\$1.01	\$0.16	\$0.25	\$3.34	\$4.00
NO0065	\$0.11	\$0.11	\$0.04	\$0.42	\$1.62	\$0.23	\$0.04	\$3.35	\$3.88
NO0068	\$0.08	\$0.24	\$0.00	\$0.04	\$0.20	\$0.06	\$0.08	\$2.29	\$2.75
NO0069	\$0.09	\$0.13	\$0.00	\$0.64	\$1.43	\$0.00	-\$0.24	\$3.04	\$3.52
NO0070	\$0.11	\$0.37	\$0.09	\$0.45	\$0.59	\$0.47	\$0.11	\$2.83	\$3.48
NO0071	\$0.37	\$0.31	\$0.06	\$0.19	\$1.65	\$0.00	-\$0.12	\$3.80	\$4.38
NO0072	\$0.04	\$0.35	\$0.15	\$0.31	\$1.13	\$0.00	-\$0.13	\$2.64	\$3.18
NO0073	\$0.08	\$0.18	\$0.06	\$0.14	\$1.22	\$0.00	-\$0.09	\$2.33	\$3.08
NO0074	\$0.08	\$0.23	\$0.00	\$0.84	\$1.65	\$0.00	\$0.05	\$3.39	\$4.13
Average	\$0.11	\$0.25	\$0.05	\$0.40	\$1.26	\$0.10	\$0.15	\$3.21	\$3.75
Top 25%*	\$0.09	\$0.17	\$0.07	\$0.29	\$1.24	\$0.11	-\$0.01	\$2.84	\$3.37

TABLE B5

Overhead costs - North

Farm number	Rates	Farm Insurance	Motor vehicle expenses	Repairs and maintenance	Other overheads	Employed labour	Total cash overheads	Depreciation	Imputed labour cost	Total overheads
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
NO0012	\$0.03	\$0.01	\$0.00	\$0.45	\$0.09	\$1.00	\$1.59	\$0.27	\$0.02	\$1.88
NO0014	\$0.07	\$0.05	\$0.03	\$0.36	\$0.08	\$0.97	\$1.56	\$0.44	\$0.62	\$2.62
NO0015	\$0.06	\$0.06	\$0.05	\$0.29	\$0.07	\$0.57	\$1.09	\$0.12	\$0.75	\$1.97
NO0022	\$0.07	\$0.05	\$0.01	\$0.47	\$0.08	\$0.38	\$1.06	\$0.11	\$0.67	\$1.83
NO0023	\$0.05	\$0.04	\$0.02	\$0.30	\$0.06	\$0.75	\$1.23	\$0.22	\$0.45	\$1.90
NO0039	\$0.03	\$0.06	\$0.01	\$0.29	\$0.09	\$0.50	\$0.99	\$0.24	\$0.86	\$2.08
NO0040	\$0.02	\$0.07	\$0.01	\$0.19	\$0.08	\$0.08	\$0.45	\$0.27	\$1.60	\$2.32
NO0041	\$0.02	\$0.03	\$0.02	\$0.17	\$0.07	\$0.59	\$0.90	\$0.23	\$0.55	\$1.68
NO0043	\$0.10	\$0.11	\$0.09	\$0.47	\$0.19	\$0.00	\$0.95	\$0.39	\$1.67	\$3.01
NO0046	\$0.05	\$0.06	\$0.05	\$0.31	\$0.14	\$0.68	\$1.29	\$0.25	\$0.69	\$2.23
NO0054	\$0.02	\$0.02	\$0.01	\$0.40	\$0.15	\$1.04	\$1.62	\$0.23	\$0.00	\$1.85
NO0056	\$0.06	\$0.09	\$0.02	\$0.24	\$0.13	\$0.35	\$0.88	\$0.11	\$1.10	\$2.10
NO0059	\$0.04	\$0.04	\$0.01	\$0.11	\$0.07	\$0.54	\$0.80	\$0.11	\$0.54	\$1.45
NO0060	\$0.04	\$0.07	\$0.04	\$0.26	\$0.09	\$0.68	\$1.18	\$0.13	\$0.89	\$2.20
NO0061	\$0.11	\$0.06	\$0.04	\$0.37	\$0.09	\$0.25	\$0.91	\$0.22	\$1.15	\$2.28
NO0062	\$0.05	\$0.06	\$0.01	\$0.30	\$0.06	\$0.31	\$0.78	\$0.21	\$0.63	\$1.63
NO0064	\$0.03	\$0.05	\$0.02	\$0.47	\$0.11	\$0.55	\$1.22	\$0.19	\$0.45	\$1.86
NO0065	\$0.01	\$0.04	\$0.03	\$0.21	\$0.15	\$0.63	\$1.07	\$0.16	\$0.37	\$1.60
NO0068	\$0.04	\$0.04	\$0.01	\$0.38	\$0.08	\$0.53	\$1.09	\$0.10	\$0.40	\$1.59
NO0069	\$0.08	\$0.12	\$0.05	\$0.34	\$0.15	\$0.43	\$1.18	\$0.16	\$1.27	\$2.60
NO0070	\$0.04	\$0.12	\$0.01	\$0.87	\$0.33	\$0.29	\$1.66	\$0.17	\$1.02	\$2.84
NO0071	\$0.26	\$0.05	\$0.06	\$0.50	\$0.07	\$0.19	\$1.12	\$0.17	\$0.98	\$2.27
NO0072	\$0.08	\$0.05	\$0.03	\$0.26	\$0.14	\$1.47	\$2.02	\$0.38	\$0.75	\$3.15
NO0073	\$0.08	\$0.10	\$0.01	\$0.35	\$0.19	\$0.58	\$1.29	\$0.33	\$0.47	\$2.09
NO0074	\$0.07	\$0.12	\$0.04	\$0.10	\$0.09	\$0.00	\$0.43	\$0.17	\$1.86	\$2.46
Average	\$0.06	\$0.06	\$0.03	\$0.34	\$0.11	\$0.53	\$1.13	\$0.22	\$0.79	\$2.14
Top 25%*	\$0.04	\$0.05	\$0.02	\$0.31	\$0.11	\$0.71	\$1.23	\$0.24	\$0.40	\$1.87

TABLE B6

Variable costs % - North

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
NO0012	2.8%	3.2%	1.4%	1.6%	1.7%	10.7%	5.6%	3.6%	4.4%
NO0014	1.8%	2.5%	1.0%	2.1%	2.2%	9.6%	7.1%	0.2%	0.3%
NO0015	2.2%	1.9%	0.5%	0.7%	1.0%	6.4%	3.7%	8.5%	12.9%
NO0022	2.0%	2.3%	0.6%	3.2%	1.0%	9.0%	3.0%	11.5%	1.0%
NO0023	2.1%	1.4%	0.4%	1.9%	1.1%	6.9%	5.7%	7.3%	1.9%
NO0039	2.0%	2.6%	0.5%	1.7%	1.2%	8.0%	3.3%	5.6%	0.0%
NO0040	1.9%	2.2%	0.5%	1.9%	1.2%	7.6%	2.0%	3.9%	2.1%
NO0041	3.2%	2.9%	0.4%	1.8%	0.6%	8.9%	2.4%	4.6%	1.5%
NO0043	1.8%	2.1%	0.6%	2.7%	2.5%	9.7%	0.4%	9.0%	1.6%
NO0046	3.0%	1.4%	0.5%	2.5%	1.4%	8.7%	4.1%	9.6%	2.1%
NO0054	3.8%	3.1%	0.2%	1.5%	1.0%	9.6%	6.2%	3.6%	6.9%
NO0056	5.0%	2.2%	0.3%	2.1%	0.8%	10.3%	5.8%	7.5%	5.1%
NO0059	1.7%	1.0%	0.1%	2.7%	1.1%	6.6%	1.7%	13.3%	3.7%
NO0060	3.0%	2.6%	3.1%	1.6%	1.0%	11.3%	2.8%	6.3%	1.9%
NO0061	2.1%	1.9%	0.2%	1.7%	1.4%	7.2%	5.7%	18.3%	1.4%
NO0062	3.1%	1.4%	0.2%	1.8%	2.4%	9.0%	4.6%	6.7%	6.5%
NO0064	1.6%	3.4%	1.2%	2.6%	2.4%	11.2%	6.0%	7.2%	1.7%
NO0065	2.0%	2.6%	0.4%	1.6%	3.0%	9.6%	3.4%	8.3%	2.6%
NO0068	1.9%	3.5%	1.9%	2.1%	1.2%	10.6%	20.2%	12.7%	3.6%
NO0069	4.5%	0.5%	0.5%	1.3%	1.1%	7.8%	4.8%	8.9%	2.5%
NO0070	3.7%	2.0%	0.4%	1.9%	2.3%	10.3%	4.7%	3.9%	1.3%
NO0071	2.4%	2.4%	0.7%	1.7%	1.5%	8.7%	5.8%	8.3%	6.1%
NO0072	2.7%	2.5%	0.4%	1.6%	1.4%	8.5%	4.3%	2.3%	5.8%
NO0073	3.2%	2.1%	4.8%	2.6%	1.6%	14.5%	8.1%	1.9%	4.3%
NO0074	4.7%	1.9%	1.4%	1.9%	1.3%	11.2%	1.7%	4.0%	2.5%
Average	2.7%	2.2%	0.9%	1.9%	1.5%	9.3%	4.9%	7.1%	3.4%
Top 25%*	2.2%	2.5%	1.6%	2.1%	1.8%	10.3%	7.7%	6.7%	3.2%

Farm number	Fuel and oil	Pasture improvement/cropping	Other feed costs	Fodder purchases	Grain/concentrates/other	Agistment costs	Feed and water inventory change	Total feed costs	Total variable costs
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
NO0012	1.8%	3.7%	0.1%	2.7%	25.6%	6.3%	2.2%	56.1%	66.7%
NO0014	2.4%	3.3%	4.2%	7.3%	22.4%	0.0%	-4.4%	42.8%	52.5%
NO0015	2.5%	3.8%	0.0%	7.0%	16.3%	0.0%	6.0%	60.7%	67.0%
NO0022	1.1%	5.7%	0.0%	0.6%	27.9%	0.0%	1.5%	52.4%	61.4%
NO0023	1.0%	6.2%	0.1%	1.4%	24.9%	0.2%	10.5%	59.2%	66.1%
NO0039	1.3%	1.7%	0.3%	19.7%	19.2%	4.6%	1.8%	57.4%	65.4%
NO0040	0.6%	2.5%	1.5%	14.3%	23.3%	1.6%	5.1%	56.9%	64.5%
NO0041	0.9%	4.6%	0.1%	4.8%	29.1%	2.2%	9.5%	59.6%	68.5%
NO0043	2.2%	10.2%	0.0%	7.6%	12.5%	0.0%	8.4%	51.9%	61.6%
NO0046	1.6%	3.2%	0.0%	10.2%	15.6%	1.1%	4.5%	52.0%	60.8%
NO0054	1.3%	5.0%	0.7%	1.4%	30.4%	3.4%	0.8%	59.8%	69.4%
NO0056	2.2%	5.1%	0.3%	0.8%	23.6%	0.0%	4.9%	55.1%	65.4%
NO0059	0.9%	1.4%	1.9%	10.8%	32.3%	0.0%	0.1%	66.2%	72.8%
NO0060	2.4%	2.2%	0.0%	12.6%	22.3%	1.6%	1.7%	53.8%	65.1%
NO0061	2.7%	2.2%	1.8%	0.0%	15.9%	0.4%	5.5%	54.0%	61.2%
NO0062	2.0%	5.5%	0.0%	8.1%	20.6%	6.2%	3.3%	63.6%	72.6%
NO0064	1.6%	4.0%	5.2%	7.0%	17.3%	2.8%	4.2%	57.0%	68.2%
NO0065	2.0%	1.9%	0.7%	7.7%	29.5%	4.2%	0.8%	61.2%	70.8%
NO0068	1.9%	5.6%	0.0%	0.9%	4.7%	1.5%	1.8%	52.8%	63.4%
NO0069	1.5%	2.1%	0.0%	10.5%	23.4%	0.0%	-4.0%	49.7%	57.5%
NO0070	1.8%	5.9%	1.4%	7.2%	9.4%	7.5%	1.7%	44.8%	55.1%
NO0071	5.5%	4.7%	0.9%	2.9%	24.8%	0.0%	-1.8%	57.2%	65.9%
NO0072	0.7%	5.6%	2.3%	5.0%	17.9%	0.0%	-2.1%	41.7%	50.2%
NO0073	1.6%	3.4%	1.2%	2.7%	23.6%	0.0%	-1.8%	45.1%	59.6%
NO0074	1.3%	3.5%	0.0%	12.8%	25.0%	0.0%	0.8%	51.6%	62.7%
Average	1.8%	4.1%	0.9%	6.6%	21.5%	1.7%	2.4%	54.5%	63.8%
Top 25%*	1.8%	3.2%	1.4%	5.4%	23.0%	2.0%	-0.2%	54.0%	64.3%

TABLE B7

Overhead costs - North

Farm number	Rates	Farm Insurance	Motor vehicle expenses	Repairs and maintenance	Other overheads	Employed labour	Total cash overheads	Depreciation	Imputed labour cost	Total overheads
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
NO0012	0.6%	0.2%	0.1%	8.0%	1.6%	17.7%	28.1%	4.9%	0.3%	33.3%
NO0014	1.2%	1.0%	0.6%	6.5%	1.4%	17.6%	28.3%	8.0%	11.3%	47.5%
NO0015	1.0%	1.0%	0.8%	4.9%	1.2%	9.5%	18.3%	2.0%	12.6%	33.0%
NO0022	1.5%	1.0%	0.2%	10.0%	1.7%	7.9%	22.3%	2.3%	14.0%	38.6%
NO0023	1.0%	0.7%	0.3%	5.3%	1.1%	13.4%	21.9%	3.9%	8.1%	33.9%
NO0039	0.4%	1.0%	0.2%	4.9%	1.5%	8.4%	16.4%	3.9%	14.3%	34.6%
NO0040	0.3%	1.0%	0.2%	2.9%	1.2%	1.3%	6.8%	4.2%	24.5%	35.5%
NO0041	0.4%	0.6%	0.4%	3.2%	1.3%	11.0%	16.8%	4.3%	10.4%	31.5%
NO0043	1.2%	1.4%	1.1%	6.0%	2.4%	0.0%	12.1%	5.0%	21.3%	38.4%
NO0046	0.9%	1.1%	0.9%	5.4%	2.4%	11.9%	22.6%	4.4%	12.2%	39.2%
NO0054	0.3%	0.3%	0.1%	6.5%	2.4%	17.1%	26.8%	3.8%	0.0%	30.6%
NO0056	0.9%	1.6%	0.3%	3.9%	2.2%	5.7%	14.6%	1.9%	18.1%	34.6%
NO0059	0.7%	0.8%	0.2%	2.1%	1.3%	10.1%	15.1%	2.1%	10.0%	27.2%
NO0060	0.6%	1.2%	0.7%	4.1%	1.5%	10.7%	18.8%	2.0%	14.2%	34.9%
NO0061	1.9%	1.0%	0.7%	6.3%	1.5%	4.2%	15.5%	3.7%	19.6%	38.8%
NO0062	0.8%	1.0%	0.2%	5.1%	1.0%	5.2%	13.2%	3.6%	10.6%	27.4%
NO0064	0.5%	0.9%	0.3%	8.0%	1.8%	9.3%	20.8%	3.2%	7.8%	31.8%
NO0065	0.2%	0.8%	0.6%	3.8%	2.7%	11.5%	19.5%	3.0%	6.8%	29.2%
NO0068	0.9%	1.0%	0.2%	8.8%	1.9%	12.2%	25.0%	2.4%	9.2%	36.6%
NO0069	1.4%	1.9%	0.9%	5.5%	2.5%	7.1%	19.2%	2.5%	20.8%	42.5%
NO0070	0.6%	1.8%	0.2%	13.7%	5.2%	4.5%	26.2%	2.6%	16.1%	44.9%
NO0071	4.0%	0.7%	0.9%	7.5%	1.1%	2.8%	16.9%	2.5%	14.8%	34.1%
NO0072	1.2%	0.8%	0.4%	4.1%	2.2%	23.2%	31.9%	6.1%	11.8%	49.8%
NO0073	1.5%	1.9%	0.1%	6.8%	3.6%	11.2%	25.0%	6.4%	9.0%	40.4%
NO0074	1.1%	1.8%	0.6%	1.6%	1.4%	0.0%	6.5%	2.5%	28.3%	37.3%
Average	1.0%	1.0%	0.4%	5.8%	1.9%	9.3%	19.5%	3.6%	13.0%	36.2%
Top 25%*	0.8%	0.9%	0.3%	6.0%	2.1%	13.4%	23.5%	4.4%	7.8%	35.7%

TABLE B8

Capital Structure - North

Farm Assets					Other farm assets (per usable hectare)				Total assets
Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets		
\$/HA	\$/COW	\$/HA	\$/COW	\$/HA	\$/HA	\$/HA	\$/HA		
Average	\$8,558	\$6,092	\$5,619	\$3,648	\$1,018	\$3,409	\$197	\$435	\$19,206
Top 25%*	\$7,688	\$6,281	\$3,099	\$1,747	\$979	\$3,415	\$250	\$743	\$16,624

Liabilities				Equity	
Liabilities per usable hectare		Liabilities per milking cow		Equity per usable hectare	Average equity
\$/HA	\$/COW	\$/HA	\$/COW	\$/HA	%
Average	\$7,423	\$4,663		\$11,783	61%
Top 25%*	\$7,058	\$4,738		\$9,566	57%

TABLE B9

Historical Data - North

	Income				Variable costs							
	Milk income (net)		Gross farm income		Herd costs		Shed costs		Feed costs		Total variable costs	
	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)
2006-07	\$4.64	\$5.98	\$5.48	\$7.07	\$0.21	\$0.27	\$0.17	\$0.22	\$3.60	\$4.64	\$4.03	\$5.20
2007-08	\$6.53	\$8.06	\$7.86	\$9.70	\$0.23	\$0.28	\$0.15	\$0.18	\$4.37	\$5.40	\$4.70	\$5.80
2008-09	\$5.32	\$6.46	\$6.06	\$7.36	\$0.21	\$0.25	\$0.13	\$0.16	\$3.47	\$4.22	\$3.81	\$4.63
2009-10	\$4.46	\$5.26	\$5.19	\$6.12	\$0.23	\$0.27	\$0.15	\$0.18	\$2.71	\$3.20	\$3.09	\$3.65
2010-11	\$5.69	\$6.48	\$6.74	\$7.67	\$0.31	\$0.35	\$0.19	\$0.21	\$2.66	\$3.03	\$3.16	\$3.60
2011-12	\$5.64	\$6.34	\$6.06	\$6.82	\$0.26	\$0.29	\$0.18	\$0.20	\$2.52	\$2.83	\$2.95	\$3.32
2012-13	\$5.05	\$5.55	\$5.53	\$6.08	\$0.25	\$0.28	\$0.24	\$0.26	\$2.85	\$3.13	\$3.34	\$3.66
2013-14	\$6.83	\$7.28	\$7.46	\$7.96	\$0.27	\$0.29	\$0.21	\$0.22	\$3.13	\$3.34	\$3.61	\$3.85
2014-15	\$6.09	\$6.40	\$6.62	\$6.96	\$0.30	\$0.31	\$0.19	\$0.20	\$3.20	\$3.36	\$3.69	\$3.87
2015-16	\$5.46	\$5.69	\$5.98	\$6.22	\$0.30	\$0.31	\$0.18	\$0.18	\$3.59	\$3.73	\$4.06	\$4.23
2016-17	\$5.13	\$5.24	\$5.92	\$6.05	\$0.34	\$0.35	\$0.20	\$0.20	\$2.87	\$2.93	\$3.41	\$3.49
2017-18	\$5.87	\$5.87	\$6.55	\$6.55	\$0.34	\$0.34	\$0.20	\$0.20	\$3.21	\$3.21	\$3.75	\$3.75
Average		\$6.22		\$7.05		\$0.30		\$0.20		\$3.58		\$4.09

Notes: 'Real' dollar values are the nominal values converted to 2017-18 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.

	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		Return on total assets	Return on equity
	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	%	%
2006-07	\$0.82	\$1.05	\$1.10	\$1.42	\$1.92	\$2.48	-\$0.47	-\$0.61	\$0.57	\$0.73	-\$1.04	-\$1.34	-1.6%	-6.9%
2007-08	\$0.78	\$0.96	\$0.90	\$1.11	\$1.57	\$1.94	\$1.59	\$1.96	\$0.55	\$0.68	\$1.04	\$1.28	7.9%	7.6%
2008-09	\$0.74	\$0.90	\$0.82	\$1.00	\$1.56	\$1.90	\$0.59	\$0.71	\$0.54	\$0.65	\$0.05	\$0.06	2.7%	-0.7%
2009-10	\$0.82	\$0.97	\$1.01	\$1.19	\$1.83	\$2.16	\$0.20	\$0.24	\$0.51	\$0.61	-\$0.31	-\$0.37	0.8%	-3.1%
2010-11	\$1.01	\$1.16	\$1.05	\$1.19	\$2.06	\$2.35	\$1.52	\$1.73	\$0.65	\$0.74	\$0.87	\$0.99	7.0%	7.6%
2011-12	\$0.90	\$1.02	\$0.85	\$0.95	\$1.75	\$1.97	\$1.36	\$1.53	\$0.57	\$0.65	\$0.78	\$0.88	7.6%	8.4%
2012-13	\$0.94	\$1.03	\$0.87	\$0.95	\$1.81	\$1.99	\$0.39	\$0.43	\$0.58	\$0.64	-\$0.19	-\$0.21	2.2%	-2.9%
2013-14	\$0.99	\$1.05	\$0.85	\$0.90	\$1.83	\$1.95	\$2.02	\$2.15	\$0.56	\$0.59	\$1.46	\$1.56	11.3%	14.7%
2014-15	\$1.03	\$1.08	\$0.81	\$0.85	\$1.84	\$1.94	\$1.10	\$1.15	\$0.50	\$0.53	\$0.59	\$0.62	6.1%	4.9%
2015-16	\$1.02	\$1.06	\$0.87	\$0.91	\$1.89	\$1.97	\$0.03	\$0.03	\$0.46	\$0.48	-\$0.43	-\$0.45	-0.1%	-4.4%
2016-17	\$1.13	\$1.16	\$1.01	\$1.09	\$2.14	\$2.18	\$0.37	\$0.38	\$0.59	\$0.60	-\$0.22	-\$0.22	1.0%	-2.0%
2017-18	\$1.13	\$1.13	\$1.01	\$1.01	\$2.14	\$2.14	\$0.65	\$0.65	\$0.55	\$0.55	\$0.10	\$0.10	2.5%	1.2%
Average		\$1.05		\$1.05		\$2.08		\$0.86		\$0.62		\$0.24	4.0%	2.0%

TABLE B10

Historical Data - North

	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	
	HA	HA	T DM/ 100MM /HA	COWS	COWS/HA	KG MS/ COW	KG MS/ HA	T DM/ HA	T DM/ HA	% OF ME	NOMINAL (\$/T DM)	REAL (\$/ T DM)
2006-07	336	331	0.7	365	1.4	430	636	4.3	0.5	48%	\$316	\$408
2007-08	294	258	0.8	321	1.1	511	559	3.1	0.7	47%	\$398	\$491
2008-09	245	195	0.8	322	1.6	500	784	4.3	0.7	46%	\$347	\$422
2009-10	216	195	0.7	282	1.6	515	806	5.0	0.6	51%	\$256	\$302
2010-11	196	171	0.7	261	1.5	495	762	5.1	2.6	58%	\$286	\$326
2011-12	193	128	0.7	304	1.9	516	957	7.1	1.1	53%	\$267	\$300
2012-13	193	123	0.8	300	1.8	518	961	8.1	1.4	55%	\$311	\$342
2013-14	210	130	0.8	332	1.9	522	995	7.6	1.6	57%	\$366	\$391
2014-15	222	135	0.9	356	1.9	537	1020	7.6	1.2	54%	\$387	\$407
2015-16	234	142	0.7	367	1.9	527	992	7.1	1.1	50%	\$389	\$404
2016-17	274	152	0.7	370	1.7	499	827	6.8	1.1	58%	\$311	\$318
2017-18	269	149	0.7	383	1.6	535	838	7.0	1.4	59%	\$352	\$352
Average	240	176	0.7	330	1.7	509	845	6.1	1.2	53%		\$372

* From 2006-07 to 2010-11 estimated grazed pasture and conserved feed was calculated per usable hectare.
From 2011-12 estimated grazed pasture and conserved feed was calculated per hectare of milking area.

TABLE C1
Main financial indicators - South West

Farm number	Milk income (net)	All other farm income	Gross farm income	Total variable costs	Total overhead costs	Cost structure (variable costs / total costs)	Earnings Before Interest and Tax	Return on total assets (excl. capital apprec.)	Interest and lease charges	Debt servicing ratio	Net farm income	Return on equity
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	%	\$/ KG MS	%	\$/ KG MS	% OF INCOME	\$/ KG MS	%
SW0001	\$6.14	\$1.09	\$7.23	\$3.14	\$2.45	56%	\$1.64	4.8%	\$0.61	8.4%	\$1.03	5.7%
SW0007	\$5.86	\$0.86	\$6.72	\$3.04	\$2.69	53%	\$0.99	5.3%	\$0.01	0.1%	\$0.98	5.4%
SW0008	\$5.88	\$0.75	\$6.63	\$3.88	\$2.21	64%	\$0.53	1.4%	\$0.80	12.1%	-\$0.27	-1.4%
SW0009	\$5.37	\$0.47	\$5.84	\$2.99	\$2.95	50%	-\$0.11	-0.4%	\$0.61	10.4%	-\$0.71	-4.2%
SW0011	\$6.14	\$0.40	\$6.54	\$4.08	\$2.15	65%	\$0.31	1.3%	\$0.49	7.5%	-\$0.19	-1.7%
SW0014	\$6.00	\$0.86	\$6.86	\$3.85	\$2.37	62%	\$0.64	2.5%	\$0.41	6.0%	\$0.22	1.5%
SW0022	\$5.80	\$1.25	\$7.05	\$4.59	\$2.60	64%	-\$0.14	-0.4%	\$0.43	6.0%	-\$0.57	-2.5%
SW0025	\$6.05	\$1.22	\$7.27	\$3.07	\$1.96	61%	\$2.24	7.3%	\$0.26	3.5%	\$1.98	9.1%
SW0027	\$5.78	\$0.41	\$6.19	\$2.48	\$2.48	50%	\$1.22	3.8%	\$0.34	5.5%	\$0.89	3.6%
SW0030	\$5.67	\$0.89	\$6.56	\$3.32	\$2.70	55%	\$0.55	1.8%	\$0.88	13.4%	-\$0.34	-2.5%
SW0032	\$5.34	\$0.37	\$5.71	\$2.92	\$2.61	53%	\$0.19	0.6%	\$0.64	11.1%	-\$0.45	-2.7%
SW0033	\$5.20	\$0.82	\$6.02	\$2.38	\$3.66	39%	-\$0.02	0.0%	\$0.03	0.5%	-\$0.05	-0.1%
SW0035	\$6.02	\$0.19	\$6.21	\$3.14	\$1.64	66%	\$1.42	6.1%	\$1.06	17.0%	\$0.36	8.2%
SW0036	\$5.98	\$0.65	\$6.63	\$3.93	\$2.51	61%	\$0.19	0.5%	\$0.32	4.9%	-\$0.13	-0.5%
SW0037	\$6.03	\$0.53	\$6.57	\$3.87	\$2.63	60%	\$0.07	0.3%	\$0.53	8.1%	-\$0.46	-4.6%
SW0040	\$6.13	\$0.62	\$6.75	\$3.94	\$2.32	63%	\$0.49	1.8%	\$0.88	13.1%	-\$0.39	-3.5%
SW0042	\$5.37	\$0.35	\$5.72	\$4.15	\$2.62	61%	-\$1.06	-3.7%	\$0.44	7.7%	-\$1.50	-11.0%
SW0043	\$5.34	\$0.07	\$5.41	\$3.64	\$3.16	54%	-\$1.38	-4.8%	\$0.27	5.0%	-\$1.65	-7.8%
SW0044	\$5.38	-\$0.51	\$4.88	\$3.88	\$3.71	51%	-\$2.71	-5.3%	\$1.06	21.7%	-\$3.76	-12.4%
SW0045	\$6.15	\$1.50	\$7.65	\$2.61	\$2.32	53%	\$2.72	10.6%	\$0.24	3.2%	\$2.48	12.9%
SW0046	\$5.88	\$0.73	\$6.60	\$3.64	\$1.77	67%	\$1.20	4.6%	\$0.86	13.0%	\$0.34	7.1%
SW0047	\$5.88	\$0.44	\$6.32	\$3.22	\$2.25	59%	\$0.85	2.8%	\$1.17	18.5%	-\$0.32	-4.0%
SW0049	\$5.56	\$0.34	\$5.91	\$2.49	\$2.30	52%	\$1.12	3.0%	\$0.89	15.0%	\$0.23	0.9%
SW0050	\$6.04	\$0.85	\$6.89	\$3.32	\$2.18	60%	\$1.39	5.2%	\$0.46	6.7%	\$0.93	5.2%
SW0051	\$6.02	\$0.34	\$6.37	\$4.12	\$2.60	61%	-\$0.35	-1.0%	\$1.23	19.4%	-\$1.59	-28.0%
Average	\$5.80	\$0.62	\$6.42	\$3.43	\$2.51	58%	\$0.48	1.9%	\$0.60	9.5%	-\$0.12	-1.1%
Top 25%*	\$6.04	\$0.95	\$6.99	\$3.05	\$2.21	58%	\$1.73	6.5%	\$0.44	6.5%	\$1.29	7.7%

* Top 25% are bold and italicised.

TABLE C2

Physical information - South West

Farm number	Total usable area	Milking area	Total water use efficiency	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Fat	Protein
	HA	HA	T DM/ 100MM	COWS	COWS/HA	KG MS/ COW	KG MS/ HA	%	%
SW0001	523	250	0.7	470	0.9	550	494	3.8%	3.4%
SW0007	116	116	0.4	100	0.9	443	381	5.4%	4.1%
SW0008	683	494	0.6	890	1.3	460	600	4.2%	3.3%
SW0009	160	160	0.5	245	1.5	498	762	4.0%	3.2%
SW0011	570	450	0.6	943	1.7	507	840	4.3%	3.4%
SW0014	211	171	0.4	240	1.1	579	659	3.7%	3.2%
SW0022	759	410	1.1	630	0.8	564	468	3.7%	3.5%
SW0025	331	140	0.8	300	0.9	598	542	4.0%	3.4%
SW0027	125	99	0.7	169	1.4	482	652	5.2%	3.9%
SW0030	264	180	0.7	340	1.3	481	619	4.5%	3.7%
SW0032	170	130	0.6	180	1.1	489	518	5.2%	4.0%
SW0033	146	56	0.5	95	0.7	372	242	4.6%	3.5%
SW0035	175	135	0.7	245	1.4	545	763	3.9%	3.3%
SW0036	333	220	0.5	275	0.8	459	379	4.5%	3.6%
SW0037	431	252	0.6	550	1.3	626	799	3.9%	3.4%
SW0040	382	244	0.8	420	1.1	526	578	3.7%	3.4%
SW0042	187	157	0.5	220	1.2	469	552	4.0%	3.3%
SW0043	129	86	0.5	150	1.2	481	559	4.4%	3.6%
SW0044	152	152	0.5	122	0.8	344	276	4.0%	3.2%
SW0045	565	505	1.2	700	1.2	571	708	3.8%	3.4%
SW0046	434	290	0.7	470	1.1	492	533	4.3%	3.5%
SW0047	596	305	0.4	680	1.1	522	596	4.1%	3.5%
SW0049	451	305	0.6	505	1.1	536	600	4.1%	3.7%
SW0050	274	200	0.8	330	1.2	521	627	4.0%	3.2%
SW0051	165	120	0.6	183	1.1	423	469	3.5%	3.1%
Average	333	225	0.6	378	1.1	502	569	4.2%	3.5%
Top 25%*	331	224	0.8	358	1.1	538	586	4.1%	3.5%

Farm number	Estimated grazed pasture**	Estimated conserved feed**	Home grown feed as % of ME consumed	Nitrogen application	Phosphorous application	Potassium application	Sulphur application	Labour efficiency	Labour efficiency
	T DM/ HA	T DM/ HA	% OF ME	KG/ HA	KG/ HA	KG/ HA	KG/ HA	COWS/ FTE	KG MS/ FTE
SW0001	2.8	3.3	55%	100	12	58	3	108	59,429
SW0007	1.9	0.0	43%	0	0	0	0	52	23,158
SW0008	4.1	2.5	66%	196	24	69	20	131	60,375
SW0009	1.6	2.4	63%	175	18	52	23	71	35,168
SW0011	2.7	2.2	38%	163	5	14	4	113	57,516
SW0014	2.7	1.0	52%	128	19	43	31	70	40,444
SW0022	3.5	2.8	66%	149	4	8	2	97	54,621
SW0025	7.1	1.8	71%	101	31	74	12	99	59,188
SW0027	5.3	1.6	77%	166	34	94	42	107	51,623
SW0030	5.0	1.1	62%	133	11	60	20	112	53,825
SW0032	4.3	0.7	55%	39	31	22	13	90	43,996
SW0033	5.3	1.4	82%	32	3	9	3	77	28,489
SW0035	5.7	1.3	62%	157	8	42	8	132	71,845
SW0036	2.5	1.0	69%	83	8	23	6	84	38,515
SW0037	3.2	2.1	51%	189	16	47	14	76	47,674
SW0040	3.8	3.2	56%	63	8	13	5	106	55,964
SW0042	2.8	1.5	49%	94	7	27	14	92	43,109
SW0043	3.5	1.1	54%	113	24	63	38	68	32,816
SW0044	2.6	1.3	77%	49	3	9	3	94	32,319
SW0045	4.5	2.8	66%	216	10	186	13	132	75,165
SW0046	4.1	2.2	67%	148	19	41	23	155	76,216
SW0047	6.4	1.0	61%	95	28	38	30	111	57,889
SW0049	4.2	3.0	70%	90	1	10	2	100	53,695
SW0050	4.3	2.4	69%	205	10	42	9	96	50,116
SW0051	3.0	2.3	63%	114	18	40	22	128	54,154
Average	3.9	1.9	62%	120	14	34	14	100	50,292
Top 25%*	4.4	2.3	61%	130	12	67	7	103	56,484

**on milking area

TABLE C3

Purchased feed - South West

Farm number	Purchased feed per milker**	Concentrate price	Silage price	Hay price	Other feed price	Average purchased feed price	Purchased feed as % of ME consumed
	T DM/ COW	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	% OF ME
SW0001	2.9	\$379		\$262		\$366	45%
SW0007	3.1	\$421	\$262			\$398	57%
SW0008	1.9	\$324	\$182	\$220		\$310	34%
SW0009	1.5	\$351		\$593		\$357	37%
SW0011	3.6	\$366		\$196	\$1,350	\$297	62%
SW0014	3.6	\$407	\$73	\$288		\$357	48%
SW0022	2.8	\$311		\$276		\$303	34%
SW0025	2.5	\$394	\$200	\$190		\$348	29%
SW0027	1.4	\$418		\$165		\$349	23%
SW0030	2.4	\$378		\$267		\$336	38%
SW0032	2.2	\$352		\$165		\$303	45%
SW0033	0.9	\$361				\$361	18%
SW0035	2.5	\$358		\$180		\$331	38%
SW0036	1.8	\$429		\$294		\$421	31%
SW0037	3.4	\$367	\$77			\$346	49%
SW0040	3.0	\$393		\$312		\$384	44%
SW0042	3.3	\$448		\$135		\$370	51%
SW0043	2.6	\$451		\$266		\$404	46%
SW0044	1.5	\$385		\$271		\$363	23%
SW0045	2.5	\$316		\$259		\$314	34%
SW0046	1.9	\$393				\$393	33%
SW0047	2.6	\$289		\$226	\$108	\$253	39%
SW0049	1.7	\$380		\$168		\$349	30%
SW0050	2.2	\$371		\$221		\$340	31%
SW0051	2.2	\$385				\$385	37%
Average	2.4	\$377	\$159	\$248	\$729	\$350	38%
Top 25%*	2.6	\$373				\$349	39%

** All purchased feed including concentrates, hay, silage and other feed fed on the usable area to all classes of livestock divided by the number of cows.

TABLE C4
Variable costs - South West

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
SW0001	\$0.12	\$0.11	\$0.00	\$0.11	\$0.18	\$0.52	\$0.32	\$0.09	\$0.22
SW0007	\$0.14	\$0.15	\$0.02	\$0.13	\$0.09	\$0.54	\$0.00	\$0.00	\$0.00
SW0008	\$0.07	\$0.20	\$0.08	\$0.13	\$0.11	\$0.59	\$0.63	\$0.09	\$0.16
SW0009	\$0.10	\$0.09	\$0.00	\$0.19	\$0.09	\$0.47	\$0.49	\$0.01	\$0.08
SW0011	\$0.10	\$0.13	\$0.02	\$0.14	\$0.09	\$0.48	\$0.28	\$0.00	\$0.27
SW0014	\$0.10	\$0.09	\$0.03	\$0.10	\$0.06	\$0.38	\$0.48	\$0.00	\$0.20
SW0022	\$0.10	\$0.16	\$0.22	\$0.10	\$0.16	\$0.74	\$0.46	\$0.00	\$0.90
SW0025	\$0.13	\$0.14	\$0.03	\$0.10	\$0.05	\$0.46	\$0.30	\$0.00	\$0.10
SW0027	\$0.07	\$0.12	\$0.01	\$0.10	\$0.10	\$0.40	\$0.64	\$0.00	\$0.21
SW0030	\$0.09	\$0.09	\$0.05	\$0.16	\$0.07	\$0.48	\$0.34	\$0.00	\$0.12
SW0032	\$0.03	\$0.18	\$0.12	\$0.11	\$0.07	\$0.51	\$0.29	\$0.00	\$0.07
SW0033	\$0.13	\$0.07	\$0.01	\$0.11	\$0.08	\$0.41	\$0.24	\$0.00	\$0.27
SW0035	\$0.10	\$0.13	\$0.02	\$0.16	\$0.06	\$0.47	\$0.43	\$0.00	\$0.09
SW0036	\$0.14	\$0.10	\$0.04	\$0.05	\$0.17	\$0.49	\$0.36	\$0.01	\$0.43
SW0037	\$0.20	\$0.19	\$0.04	\$0.11	\$0.27	\$0.80	\$0.38	\$0.07	\$0.16
SW0040	\$0.15	\$0.15	\$0.10	\$0.12	\$0.06	\$0.59	\$0.33	\$0.00	\$0.08
SW0042	\$0.03	\$0.17	\$0.11	\$0.12	\$0.10	\$0.53	\$0.34	\$0.00	\$0.08
SW0043	\$0.06	\$0.08	\$0.03	\$0.15	\$0.16	\$0.47	\$0.50	\$0.00	\$0.03
SW0044	\$0.15	\$0.04	\$0.00	\$0.23	\$0.05	\$0.47	\$0.22	\$0.00	\$0.35
SW0045	\$0.11	\$0.08	\$0.09	\$0.08	\$0.22	\$0.58	\$0.32	\$0.00	\$0.16
SW0046	\$0.16	\$0.18	\$0.01	\$0.12	\$0.11	\$0.58	\$0.57	\$0.00	\$0.28
SW0047	\$0.15	\$0.19	\$0.03	\$0.15	\$0.05	\$0.57	\$0.55	\$0.00	\$0.26
SW0049	\$0.14	\$0.08	\$0.03	\$0.11	\$0.07	\$0.42	\$0.25	\$0.02	\$0.14
SW0050	\$0.11	\$0.15	\$0.05	\$0.11	\$0.10	\$0.52	\$0.41	\$0.00	\$0.19
SW0051	\$0.08	\$0.17	\$0.08	\$0.27	\$0.12	\$0.72	\$0.59	\$0.00	\$0.28
Average	\$0.11	\$0.13	\$0.05	\$0.13	\$0.11	\$0.53	\$0.39	\$0.01	\$0.21
Top 25%*	\$0.12	\$0.13	\$0.03	\$0.12	\$0.12	\$0.51	\$0.30	\$0.01	\$0.13

Farm number	Fuel and oil	Pasture improvement/cropping	Other feed costs	Fodder purchases	Grain/concentrates/other	Agistment costs	Feed and water inventory change	Total feed costs	Total variable costs
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
SW0001	\$0.11	\$0.06	\$0.04	\$0.16	\$1.98	\$0.00	-\$0.37	\$2.62	\$3.14
SW0007	\$0.07	\$0.00	\$0.00	\$0.17	\$1.58	\$0.36	\$0.32	\$2.51	\$3.04
SW0008	\$0.34	\$0.25	\$0.13	\$0.12	\$1.22	\$0.00	\$0.37	\$3.30	\$3.88
SW0009	\$0.22	\$0.25	\$0.00	\$0.04	\$1.00	\$0.22	\$0.21	\$2.52	\$2.99
SW0011	\$0.05	\$0.16	\$0.11	\$0.66	\$1.65	\$0.32	\$0.10	\$3.60	\$4.08
SW0014	\$0.11	\$0.07	\$0.00	\$0.68	\$1.68	\$0.00	\$0.26	\$3.47	\$3.85
SW0022	\$0.18	\$0.18	\$0.25	\$0.32	\$1.26	\$0.00	\$0.30	\$3.85	\$4.59
SW0025	\$0.11	\$0.06	\$0.01	\$0.24	\$1.58	\$0.00	\$0.20	\$2.61	\$3.07
SW0027	\$0.04	\$0.01	\$0.02	\$0.14	\$0.94	\$0.00	\$0.07	\$2.08	\$2.48
SW0030	\$0.13	\$0.30	\$0.00	\$0.52	\$1.21	\$0.12	\$0.09	\$2.84	\$3.32
SW0032	\$0.06	\$0.05	\$0.00	\$0.28	\$1.68	\$0.00	-\$0.03	\$2.40	\$2.92
SW0033	\$0.06	\$0.24	\$0.00	\$0.00	\$0.92	\$0.00	\$0.25	\$1.98	\$2.38
SW0035	\$0.06	\$0.20	\$0.05	\$0.13	\$1.46	\$0.00	\$0.24	\$2.67	\$3.14
SW0036	\$0.13	\$0.25	\$0.00	\$0.08	\$1.70	\$0.00	\$0.49	\$3.44	\$3.93
SW0037	\$0.09	\$0.13	\$0.01	\$0.03	\$2.01	\$0.00	\$0.19	\$3.07	\$3.87
SW0040	\$0.19	\$0.23	\$0.15	\$0.22	\$2.10	\$0.00	\$0.06	\$3.36	\$3.94
SW0042	\$0.18	\$0.23	\$0.03	\$0.24	\$2.39	\$0.13	\$0.00	\$3.62	\$4.15
SW0043	\$0.09	\$0.15	\$0.07	\$0.39	\$1.93	\$0.00	\$0.00	\$3.16	\$3.64
SW0044	\$0.15	\$0.53	\$0.00	\$0.22	\$1.31	\$0.00	\$0.62	\$3.41	\$3.88
SW0045	\$0.10	\$0.03	\$0.05	\$0.04	\$1.29	\$0.00	\$0.03	\$2.03	\$2.61
SW0046	\$0.09	\$0.25	\$0.05	\$0.00	\$1.67	\$0.00	\$0.16	\$3.05	\$3.64
SW0047	\$0.10	\$0.28	\$0.02	\$0.45	\$0.92	\$0.00	\$0.08	\$2.66	\$3.22
SW0049	\$0.13	\$0.16	\$0.00	\$0.09	\$1.16	\$0.00	\$0.12	\$2.06	\$2.49
SW0050	\$0.11	\$0.25	\$0.00	\$0.20	\$1.33	\$0.00	\$0.30	\$2.80	\$3.32
SW0051	\$0.19	\$0.09	\$0.04	\$0.00	\$2.06	\$0.00	\$0.14	\$3.40	\$4.12
Average	\$0.12	\$0.18	\$0.04	\$0.22	\$1.52	\$0.05	\$0.17	\$2.90	\$3.43
Top 25%*	\$0.10	\$0.10	\$0.02	\$0.16	\$1.54	\$0.06	\$0.12	\$2.54	\$3.05

TABLE C5

Overhead costs - South West

Farm number	Rates	Farm insurance	Motor vehicle expenses	Repairs and maintenance	Other overheads	Employed labour	Total cash overheads	Depreciation	Imputed labour cost	Total overheads
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
SW0001	\$0.05	\$0.04	\$0.02	\$0.48	\$0.09	\$0.76	\$1.43	\$0.60	\$0.42	\$2.45
SW0007	\$0.08	\$0.10	\$0.03	\$0.30	\$0.11	\$1.78	\$2.40	\$0.11	\$0.18	\$2.69
SW0008	\$0.03	\$0.07	\$0.00	\$0.51	\$0.02	\$0.78	\$1.41	\$0.40	\$0.39	\$2.21
SW0009	\$0.08	\$0.05	\$0.00	\$0.43	\$0.06	\$0.00	\$0.62	\$0.26	\$2.07	\$2.95
SW0011	\$0.04	\$0.05	\$0.13	\$0.37	\$0.23	\$1.18	\$2.00	\$0.16	\$0.00	\$2.15
SW0014	\$0.06	\$0.04	\$0.01	\$0.28	\$0.06	\$1.00	\$1.45	\$0.24	\$0.69	\$2.37
SW0022	\$0.10	\$0.05	\$0.01	\$0.45	\$0.22	\$0.65	\$1.48	\$0.38	\$0.74	\$2.60
SW0025	\$0.05	\$0.04	\$0.08	\$0.22	\$0.09	\$0.79	\$1.28	\$0.30	\$0.38	\$1.96
SW0027	\$0.07	\$0.07	\$0.08	\$0.25	\$0.17	\$0.06	\$0.69	\$0.44	\$1.36	\$2.48
SW0030	\$0.08	\$0.01	\$0.20	\$0.57	\$0.21	\$0.38	\$1.44	\$0.35	\$0.90	\$2.70
SW0032	\$0.05	\$0.05	\$0.07	\$0.46	\$0.21	\$0.23	\$1.08	\$0.12	\$1.41	\$2.61
SW0033	\$0.11	\$0.19	\$0.06	\$0.16	\$0.20	\$0.12	\$0.84	\$0.35	\$2.47	\$3.66
SW0035	\$0.00	\$0.03	\$0.01	\$0.30	\$0.13	\$0.08	\$0.54	\$0.16	\$0.94	\$1.64
SW0036	\$0.09	\$0.06	\$0.05	\$0.31	\$0.07	\$0.62	\$1.20	\$0.37	\$0.94	\$2.51
SW0037	\$0.06	\$0.06	\$0.01	\$0.68	\$0.04	\$0.90	\$1.75	\$0.31	\$0.57	\$2.63
SW0040	\$0.07	\$0.10	\$0.06	\$0.30	\$0.20	\$0.81	\$1.54	\$0.25	\$0.53	\$2.32
SW0042	\$0.06	\$0.03	\$0.02	\$0.52	\$0.08	\$0.67	\$1.39	\$0.19	\$1.05	\$2.62
SW0043	\$0.05	\$0.14	\$0.02	\$0.37	\$0.09	\$0.03	\$0.71	\$0.24	\$2.21	\$3.16
SW0044	\$0.16	\$0.20	\$0.01	\$0.35	\$0.18	\$0.00	\$0.91	\$0.54	\$2.25	\$3.71
SW0045	\$0.04	\$0.05	\$0.00	\$0.54	\$0.38	\$0.55	\$1.55	\$0.34	\$0.42	\$2.32
SW0046	\$0.02	\$0.06	\$0.02	\$0.59	\$0.07	\$0.52	\$1.28	\$0.14	\$0.35	\$1.77
SW0047	\$0.05	\$0.09	\$0.01	\$0.39	\$0.17	\$0.92	\$1.63	\$0.22	\$0.39	\$2.25
SW0049	\$0.05	\$0.06	\$0.01	\$0.41	\$0.19	\$0.52	\$1.24	\$0.37	\$0.69	\$2.30
SW0050	\$0.07	\$0.10	\$0.01	\$0.44	\$0.05	\$0.71	\$1.38	\$0.18	\$0.62	\$2.18
SW0051	\$0.00	\$0.16	\$0.03	\$0.71	\$0.08	\$0.17	\$1.15	\$0.29	\$1.16	\$2.60
Average	\$0.06	\$0.08	\$0.04	\$0.41	\$0.14	\$0.57	\$1.30	\$0.29	\$0.93	\$2.51
Top 25%*	\$0.05	\$0.06	\$0.03	\$0.38	\$0.14	\$0.78	\$1.43	\$0.28	\$0.49	\$2.21

TABLE C6

Variable costs % - South West

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
SW0001	2.2%	1.9%	0.0%	2.0%	3.1%	9.3%	5.7%	1.6%	4.0%
SW0007	2.5%	2.7%	0.3%	2.3%	1.6%	9.3%	0.0%	0.0%	0.0%
SW0008	1.2%	3.2%	1.4%	2.1%	1.7%	9.6%	10.3%	1.5%	2.6%
SW0009	1.6%	1.5%	0.0%	3.3%	1.5%	7.9%	8.3%	0.1%	1.4%
SW0011	1.6%	2.0%	0.3%	2.2%	1.5%	7.7%	4.5%	0.0%	4.3%
SW0014	1.6%	1.5%	0.5%	1.6%	1.0%	6.1%	7.7%	0.0%	3.2%
SW0022	1.4%	2.2%	3.0%	1.4%	2.2%	10.3%	6.4%	0.0%	12.5%
SW0025	2.7%	2.8%	0.5%	2.0%	1.1%	9.1%	6.0%	0.0%	1.9%
SW0027	1.5%	2.4%	0.2%	1.9%	2.0%	8.1%	12.8%	0.0%	4.2%
SW0030	1.6%	1.5%	0.9%	2.7%	1.2%	8.0%	5.6%	0.0%	2.0%
SW0032	0.6%	3.3%	2.1%	1.9%	1.3%	9.3%	5.3%	0.0%	1.3%
SW0033	2.1%	1.1%	0.2%	1.9%	1.4%	6.7%	4.0%	0.0%	4.5%
SW0035	2.2%	2.8%	0.3%	3.3%	1.3%	9.9%	9.0%	0.0%	1.8%
SW0036	2.2%	1.6%	0.5%	0.7%	2.6%	7.6%	5.6%	0.2%	6.6%
SW0037	3.1%	2.9%	0.6%	1.7%	4.1%	12.3%	5.8%	1.1%	2.5%
SW0040	2.5%	2.4%	1.6%	2.0%	1.0%	9.4%	5.2%	0.0%	1.3%
SW0042	0.4%	2.5%	1.6%	1.8%	1.5%	7.8%	5.0%	0.0%	1.1%
SW0043	0.9%	1.2%	0.4%	2.1%	2.3%	7.0%	7.4%	0.0%	0.4%
SW0044	2.0%	0.5%	0.0%	3.1%	0.6%	6.2%	2.9%	0.0%	4.6%
SW0045	2.3%	1.6%	1.9%	1.7%	4.4%	11.8%	6.6%	0.0%	3.3%
SW0046	3.0%	3.3%	0.2%	2.3%	2.0%	10.8%	10.6%	0.0%	5.2%
SW0047	2.7%	3.4%	0.6%	2.7%	1.0%	10.3%	10.1%	0.0%	4.8%
SW0049	2.8%	1.7%	0.6%	2.4%	1.4%	8.8%	5.2%	0.5%	3.0%
SW0050	2.0%	2.8%	0.9%	2.0%	1.8%	9.4%	7.5%	0.0%	3.4%
SW0051	1.2%	2.5%	1.2%	4.1%	1.8%	10.7%	8.8%	0.0%	4.2%
Average	1.9%	2.2%	0.8%	2.2%	1.8%	8.9%	6.7%	0.2%	3.4%
Top 25%*	2.3%	2.4%	0.7%	2.2%	2.2%	9.8%	5.8%	0.3%	2.4%

Farm number	Fuel and oil	Pasture improvement/cropping	Other feed costs	Fodder purchases	Grain/concentrates/other	Agistment costs	Feed and water inventory change	Total feed costs	Total variable costs
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
SW0001	2.0%	1.1%	0.7%	2.9%	35.4%	0.0%	-6.6%	46.8%	56.1%
SW0007	1.3%	0.1%	0.0%	3.0%	27.5%	6.2%	5.6%	43.7%	53.0%
SW0008	5.6%	4.1%	2.1%	1.9%	19.9%	0.0%	6.0%	54.1%	63.7%
SW0009	3.8%	4.3%	0.1%	0.7%	16.8%	3.6%	3.5%	42.5%	50.4%
SW0011	0.7%	2.5%	1.8%	10.6%	26.5%	5.2%	1.6%	57.8%	65.5%
SW0014	1.7%	1.2%	0.0%	10.9%	27.0%	0.0%	4.2%	55.8%	61.9%
SW0022	2.5%	2.5%	3.5%	4.5%	17.5%	0.0%	4.2%	53.6%	63.9%
SW0025	2.3%	1.2%	0.2%	4.9%	31.5%	0.0%	4.1%	52.0%	61.1%
SW0027	0.8%	0.3%	0.5%	2.8%	19.0%	0.0%	1.5%	41.9%	50.0%
SW0030	2.1%	5.0%	0.0%	8.7%	20.2%	2.0%	1.4%	47.2%	55.2%
SW0032	1.0%	0.9%	0.0%	5.1%	30.5%	0.0%	-0.5%	43.5%	52.8%
SW0033	1.0%	4.0%	0.0%	0.0%	15.2%	0.0%	4.1%	32.7%	39.5%
SW0035	1.3%	4.3%	1.1%	2.8%	30.5%	0.0%	4.9%	55.8%	65.7%
SW0036	2.0%	3.8%	0.0%	1.2%	26.4%	0.0%	7.6%	53.4%	61.0%
SW0037	1.4%	2.0%	0.1%	0.5%	30.9%	0.0%	2.9%	47.2%	59.6%
SW0040	3.0%	3.6%	2.5%	3.5%	33.6%	0.0%	0.9%	53.6%	63.0%
SW0042	2.7%	3.5%	0.4%	3.5%	35.3%	1.9%	0.1%	53.5%	61.3%
SW0043	1.3%	2.2%	1.0%	5.8%	28.4%	0.0%	0.0%	46.6%	53.5%
SW0044	2.0%	7.0%	0.0%	2.9%	17.3%	0.0%	8.2%	44.9%	51.1%
SW0045	2.1%	0.7%	1.0%	0.8%	26.1%	0.0%	0.6%	41.2%	53.0%
SW0046	1.6%	4.5%	0.9%	0.0%	30.8%	0.0%	2.9%	56.5%	67.3%
SW0047	1.8%	5.1%	0.4%	8.2%	16.7%	0.0%	1.4%	48.6%	58.9%
SW0049	2.6%	3.3%	0.1%	1.8%	24.1%	0.0%	2.5%	43.0%	51.9%
SW0050	2.1%	4.6%	0.0%	3.7%	24.2%	0.0%	5.5%	51.0%	60.4%
SW0051	2.9%	1.4%	0.6%	0.0%	30.7%	0.0%	2.1%	50.6%	61.3%
Average	2.1%	2.9%	0.7%	3.6%	25.7%	0.8%	2.7%	48.7%	57.6%
Top 25%*	1.8%	2.0%	0.5%	3.0%	29.2%	1.0%	2.4%	48.4%	58.2%

TABLE C7

Overhead costs - South West

Farm number	Rates	Farm Insurance	Motor vehicle expenses	Repairs and maintenance	Other overheads	Employed labour	Total cash overheads	Depreciation	Imputed labour cost	Total overheads
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
SW0001	0.9%	0.7%	0.3%	8.6%	1.6%	13.6%	25.6%	10.7%	7.6%	43.9%
SW0007	1.5%	1.8%	0.6%	5.2%	1.9%	31.0%	41.9%	1.9%	3.2%	47.0%
SW0008	0.6%	1.2%	0.1%	8.3%	0.3%	12.7%	23.2%	6.6%	6.5%	36.3%
SW0009	1.3%	0.9%	0.1%	7.2%	1.0%	0.0%	10.4%	4.4%	34.8%	49.6%
SW0011	0.7%	0.8%	2.1%	6.0%	3.6%	18.9%	32.0%	2.5%	0.0%	34.5%
SW0014	1.0%	0.7%	0.1%	4.5%	0.9%	16.1%	23.2%	3.8%	11.0%	38.1%
SW0022	1.4%	0.6%	0.2%	6.3%	3.0%	9.0%	20.6%	5.3%	10.3%	36.1%
SW0025	0.9%	0.8%	1.7%	4.4%	1.8%	15.7%	25.4%	6.0%	7.6%	38.9%
SW0027	1.4%	1.4%	1.6%	5.0%	3.4%	1.1%	13.9%	8.8%	27.3%	50.0%
SW0030	1.4%	0.2%	3.3%	9.4%	3.5%	6.3%	24.0%	5.8%	15.0%	44.8%
SW0032	1.0%	0.9%	1.3%	8.3%	3.9%	4.2%	19.5%	2.2%	25.5%	47.2%
SW0033	1.9%	3.1%	1.0%	2.6%	3.3%	2.0%	13.9%	5.8%	40.9%	60.5%
SW0035	0.0%	0.6%	0.2%	6.2%	2.7%	1.6%	11.3%	3.4%	19.7%	34.3%
SW0036	1.3%	1.0%	0.7%	4.8%	1.1%	9.6%	18.6%	5.7%	14.7%	39.0%
SW0037	0.9%	0.9%	0.1%	10.5%	0.7%	13.9%	26.9%	4.7%	8.8%	40.4%
SW0040	1.1%	1.6%	0.9%	4.8%	3.2%	13.0%	24.6%	4.0%	8.4%	37.0%
SW0042	1.0%	0.5%	0.3%	7.6%	1.2%	9.8%	20.5%	2.8%	15.5%	38.7%
SW0043	0.8%	2.0%	0.3%	5.5%	1.3%	0.5%	10.4%	3.6%	32.5%	46.5%
SW0044	2.2%	2.7%	0.2%	4.6%	2.4%	0.0%	12.0%	7.1%	29.7%	48.9%
SW0045	0.8%	1.0%	0.1%	10.9%	7.7%	11.1%	31.5%	6.9%	8.6%	47.0%
SW0046	0.3%	1.2%	0.4%	10.9%	1.2%	9.6%	23.8%	2.6%	6.4%	32.7%
SW0047	1.0%	1.7%	0.1%	7.1%	3.0%	16.8%	29.8%	4.1%	7.2%	41.1%
SW0049	1.0%	1.3%	0.1%	8.6%	4.0%	10.8%	25.9%	7.8%	14.5%	48.1%
SW0050	1.3%	1.8%	0.2%	7.9%	0.9%	12.9%	25.1%	3.3%	11.2%	39.6%
SW0051	0.0%	2.4%	0.4%	10.6%	1.3%	2.5%	17.1%	4.3%	17.3%	38.7%
Average	1.0%	1.3%	0.7%	7.0%	2.4%	9.7%	22.0%	5.0%	15.4%	42.4%
Top 25%*	0.9%	1.1%	0.5%	7.2%	2.8%	14.3%	26.8%	5.4%	9.6%	41.8%

TABLE C8

Capital Structure - South West

	Farm Assets				Other farm assets (per usable hectare)				Total assets
	Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	
	\$/HA	\$/COW	\$/HA	\$/COW	\$/HA	\$/HA	\$/HA	\$/HA	
Average	\$12,226	\$9,768	\$1,936	\$1,490	\$1,061	\$2,616	\$173	\$451	\$14,895
Top 25%*	\$8,615	\$8,597	\$0	\$0	\$136	\$387	\$14,698	\$0	\$6,065

Liabilities				Equity	
Liabilities per usable hectare		Liabilities per milking cow		Equity per usable hectare	Average equity
\$/HA		\$/COW		\$/HA	%
Average		\$5,503		\$9,392	64%
Top 25%*		\$3,755		\$9,340	75%

TABLE C9
Historical Data - South West

	Income				Variable costs							
	Milk income (net)		Gross farm income		Herd costs		Shed costs		Feed costs		Total variable costs	
	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)
2006-07	\$4.31	\$5.55	\$5.05	\$6.52	\$0.19	\$0.24	\$0.13	\$0.17	\$2.61	\$3.37	\$2.97	\$3.83
2007-08	\$6.56	\$8.10	\$7.91	\$9.76	\$0.21	\$0.26	\$0.14	\$0.18	\$2.95	\$3.64	\$3.32	\$4.10
2008-09	\$5.40	\$6.57	\$6.13	\$7.45	\$0.22	\$0.26	\$0.15	\$0.19	\$2.55	\$3.10	\$2.93	\$3.56
2009-10	\$4.55	\$5.37	\$5.23	\$6.17	\$0.21	\$0.24	\$0.16	\$0.19	\$2.00	\$2.35	\$2.37	\$2.79
2010-11	\$5.62	\$6.40	\$6.34	\$7.22	\$0.21	\$0.24	\$0.18	\$0.20	\$2.10	\$2.39	\$2.48	\$2.83
2011-12	\$5.56	\$6.25	\$5.97	\$6.72	\$0.23	\$0.26	\$0.21	\$0.24	\$2.35	\$2.64	\$2.79	\$3.14
2012-13	\$4.90	\$5.39	\$5.24	\$5.76	\$0.24	\$0.27	\$0.21	\$0.24	\$2.60	\$2.86	\$3.06	\$3.37
2013-14	\$6.91	\$7.37	\$7.54	\$8.04	\$0.25	\$0.27	\$0.23	\$0.24	\$2.90	\$3.09	\$3.37	\$3.60
2014-15	\$6.16	\$6.47	\$6.70	\$7.04	\$0.25	\$0.27	\$0.20	\$0.21	\$2.88	\$3.03	\$3.34	\$3.51
2015-16	\$5.47	\$5.69	\$5.95	\$6.19	\$0.24	\$0.25	\$0.19	\$0.20	\$3.14	\$3.26	\$3.57	\$3.72
2016-17	\$5.25	\$5.36	\$5.98	\$6.11	\$0.25	\$0.26	\$0.20	\$0.21	\$2.14	\$2.18	\$2.59	\$2.64
2017-18	\$5.80	\$5.80	\$6.42	\$6.42	\$0.29	\$0.29	\$0.24	\$0.24	\$2.90	\$2.90	\$3.43	\$3.43
Average		\$6.19		\$6.95		\$0.26		\$0.21		\$2.90		\$3.38

Notes: 'Real' dollar values are the nominal values converted to 2017-18 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.

	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		Return on total assets	Return on equity
	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	%	%
2006-07	\$0.79	\$1.02	\$0.99	\$1.27	\$1.78	\$2.30	\$0.30	\$0.39	\$0.59	\$0.77	-\$0.29	-\$0.38	1.0%	-3.3%
2007-08	\$0.95	\$1.17	\$0.84	\$1.04	\$1.69	\$2.09	\$2.89	\$3.57	\$0.72	\$0.89	\$2.17	\$2.67	11.2%	14.8%
2008-09	\$0.92	\$1.12	\$0.89	\$1.08	\$1.81	\$2.20	\$1.32	\$1.61	\$0.69	\$0.84	\$0.63	\$0.77	4.5%	3.7%
2009-10	\$0.89	\$1.05	\$1.03	\$1.22	\$1.92	\$2.27	\$0.91	\$1.07	\$0.80	\$0.95	\$0.10	\$0.12	3.0%	1.3%
2010-11	\$1.06	\$1.21	\$1.08	\$1.23	\$2.14	\$2.44	\$1.71	\$1.95	\$0.95	\$1.08	\$0.77	\$0.87	5.5%	5.8%
2011-12	\$1.11	\$1.25	\$1.29	\$1.45	\$2.40	\$2.70	\$0.78	\$0.88	\$0.90	\$1.01	-\$0.12	-\$0.13	3.3%	-0.2%
2012-13	\$0.95	\$1.04	\$1.20	\$1.32	\$2.15	\$2.36	\$0.03	\$0.03	\$0.78	\$0.86	-\$0.75	-\$0.83	0.2%	-12.7%
2013-14	\$1.14	\$1.22	\$1.00	\$1.07	\$2.14	\$2.29	\$2.03	\$2.16	\$0.69	\$0.74	\$1.33	\$1.42	7.9%	9.9%
2014-15	\$1.15	\$1.21	\$0.92	\$0.97	\$2.08	\$2.18	\$1.28	\$1.35	\$0.62	\$0.65	\$0.66	\$0.70	5.2%	6.2%
2015-16	\$1.10	\$1.14	\$1.10	\$1.14	\$2.19	\$2.28	\$0.18	\$0.19	\$0.68	\$0.70	-\$0.49	-\$0.51	0.6%	-2.8%
2016-17	\$1.11	\$1.14	\$1.12	\$1.14	\$2.23	\$2.28	\$1.16	\$1.19	\$0.63	\$0.65	\$0.53	\$0.54	4.2%	4.3%
2017-18	\$1.30	\$1.30	\$1.22	\$1.22	\$2.51	\$2.51	\$0.48	\$0.48	\$0.60	\$0.60	-\$0.12	-\$0.12	1.9%	-1.1%
Average		\$1.15		\$1.18		\$2.32		\$1.24		\$0.81		\$0.43	4.0%	2.1%

TABLE C10
Historical Data - South West

	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	
	HA	HA	T DM/100MM/HA	COWS	COWS/HA	KG MS/ COW	KG MS/ HA	T DM/ HA	T DM/ HA	% OF ME	NOMINAL (\$/T DM)	REAL (\$/ T DM)
2006-07	286	285	0.8	386	1.4	500	688	4.8	1.1	61%	\$332	\$428
2007-08	320	317	0.8	387	1.2	489	591	5.1	1.3	71%	\$425	\$525
2008-09	330	328	0.8	384	1.3	510	649	5.3	1.2	68%	\$390	\$474
2009-10	302	298	0.8	366	1.3	503	665	6.0	1.0	71%	\$287	\$338
2010-11	322	319	0.7	369	1.2	491	585	5.1	1.6	67%	\$302	\$344
2011-12	327	225	0.7	387	1.2	507	605	4.2	1.0	55%	\$309	\$348
2012-13	308	205	0.8	369	1.2	506	601	4.0	1.5	58%	\$342	\$376
2013-14	330	214	0.8	390	1.2	503	600	4.6	1.5	62%	\$395	\$421
2014-15	333	223	0.9	389	1.2	525	627	4.5	1.2	59%	\$408	\$429
2015-16	320	222	0.7	378	1.2	523	625	3.4	1.5	51%	\$400	\$416
2016-17	326	224	0.7	368	1.1	525	595	4.8	2.2	67%	\$345	\$352
2017-18	333	225	0.6	378	1.1	502	569	3.9	1.9	62%	\$377	\$377
Average	320	257	0.8	379	1.2	507	617	4.6	1.4	63%		\$402

* From 2006-07 to 2010-11 estimated grazed pasture and conserved feed was calculated per usable hectare.
From 2011-12 estimated grazed pasture and conserved feed was calculated per hectare of milking area.

TABLE D1
Main financial indicators - Gippsland

Farm number	Milk income (net)	All other farm income	Gross farm income	Total variable costs	Total overhead costs	Cost structure (variable costs / total costs)	Earnings Before Interest and Tax	Return on total assets (excl. capital apprec.)	Interest and lease charges	Debt servicing ratio	Net farm income	Return on equity
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	%	\$/ KG MS	%	\$/ KG MS	% OF INCOME	\$/ KG MS	%
GI0004	\$5.44	\$0.83	\$6.27	\$3.09	\$3.66	46%	-\$0.48	-1.3%	\$1.11	18%	-\$1.58	-9.8%
GI0005	\$5.51	\$0.00	\$5.50	\$3.62	\$3.48	51%	-\$1.60	-4.3%	\$0.63	11%	-\$2.23	-8.7%
GI0011	\$5.81	\$0.30	\$6.11	\$3.18	\$2.22	59%	\$0.72	1.4%	\$1.09	18%	-\$0.37	-1.8%
GI0012	\$5.83	\$0.48	\$6.30	\$2.66	\$3.15	46%	\$0.50	0.8%	\$0.70	11%	-\$0.20	-0.5%
GI0017	\$5.45	\$0.56	\$6.00	\$3.68	\$2.49	60%	-\$0.17	-0.5%	\$0.27	5%	-\$0.44	-2.2%
GI0021	\$5.92	\$0.43	\$6.35	\$2.91	\$2.51	54%	\$0.93	2.9%	\$1.14	18%	-\$0.21	-2.0%
GI0022	\$5.57	\$1.07	\$6.64	\$3.09	\$2.03	60%	\$1.51	4.6%	\$0.55	8%	\$0.96	4.6%
GI0023	\$6.04	\$0.42	\$6.46	\$3.19	\$2.33	58%	\$0.94	3.6%	\$0.66	10%	\$0.28	2.5%
GI0025	\$5.53	\$0.61	\$6.14	\$3.48	\$2.30	60%	\$0.36	0.9%	\$0.79	13%	-\$0.44	-2.3%
GI0028	\$6.00	\$0.49	\$6.49	\$3.94	\$2.08	65%	\$0.47	1.4%	\$0.90	14%	-\$0.43	-3.1%
GI0029	\$5.67	\$0.59	\$6.26	\$2.95	\$2.10	58%	\$1.21	4.7%	\$0.32	5%	\$0.90	4.5%
GI0031	\$5.90	\$0.24	\$6.14	\$3.32	\$1.81	65%	\$1.01	6.0%	\$0.25	4%	\$0.76	5.8%
GI0032	\$5.88	\$0.89	\$6.77	\$3.26	\$2.21	60%	\$1.30	4.1%	\$0.15	2%	\$1.15	4.1%
GI0039	\$5.47	\$0.69	\$6.16	\$3.26	\$1.68	66%	\$1.22	4.0%	\$0.94	15%	\$0.28	3.7%
GI0041	\$5.91	\$0.47	\$6.39	\$2.81	\$1.79	61%	\$1.78	5.8%	\$0.24	4%	\$1.54	5.9%
GI0045	\$5.91	\$0.49	\$6.39	\$3.71	\$1.81	67%	\$0.88	2.0%	\$0.86	14%	\$0.01	0.1%
GI0046	\$5.45	\$0.29	\$5.74	\$2.94	\$2.27	56%	\$0.54	1.8%	\$1.01	18%	-\$0.47	-4.0%
GI0048	\$5.53	\$0.52	\$6.06	\$2.89	\$1.66	64%	\$1.51	4.2%	\$0.40	7%	\$1.11	5.3%
GI0049	\$5.93	\$0.14	\$6.06	\$2.71	\$1.71	61%	\$1.65	8.3%	\$0.49	8%	\$1.16	14.3%
GI0051	\$5.58	\$0.82	\$6.40	\$3.84	\$2.74	58%	-\$0.17	-0.3%	\$1.67	26%	-\$1.84	-24.8%
GI0052	\$6.10	\$0.50	\$6.60	\$4.12	\$2.47	63%	\$0.02	0.1%	\$0.64	10%	-\$0.62	-3.0%
GI0053	\$5.84	\$0.52	\$6.36	\$2.85	\$1.57	64%	\$1.94	8.7%	\$0.35	6%	\$1.59	10.1%
GI0055	\$5.96	\$0.82	\$6.78	\$3.27	\$1.96	62%	\$1.55	5.1%	\$0.83	12%	\$0.72	5.4%
GI0056	\$5.46	\$0.34	\$5.80	\$2.05	\$1.67	55%	\$2.08	7.4%	\$0.51	9%	\$1.57	10.9%
GI0057	\$5.91	\$0.47	\$6.39	\$3.43	\$1.56	69%	\$1.40	4.3%	\$0.86	13%	\$0.54	10.2%
Average	\$5.74	\$0.52	\$6.26	\$3.21	\$2.21	60%	\$0.84	3.0%	\$0.69	11%	\$0.15	1.0%
Top 25%*	\$5.83	\$0.42	\$6.26	\$2.83	\$1.75	62%	\$1.67	6.9%	\$0.44	7%	\$1.22	8.7%

* Top 25% are bold and italicised.

TABLE D2

Physical information - Gippsland

Farm number	Total usable area	Milking area	Total water use efficiency	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Fat	Protein
	HA	HA	T DM/100MM	COWS	COWS/HA	KG MS/ COW	KG MS/ HA	%	%
GI0004	143	135	0.7	238	1.7	252	420	4.5%	3.5%
GI0005	91	91	0.8	170	1.9	314	586	4.0%	3.1%
GI0011	145	75	0.4	130	0.9	432	387	4.0%	3.5%
GI0012	100	70	0.8	160	1.6	455	728	4.0%	3.3%
GI0017	245	161	0.5	195	0.8	429	342	4.1%	3.1%
GI0021	279	188	1.0	390	1.4	465	650	5.1%	3.9%
GI0022	423	280	1.4	489	1.2	498	576	4.0%	3.5%
GI0023	200	90	0.9	335	1.7	581	972	4.1%	3.5%
GI0025	177	100	0.9	340	1.9	366	703	4.7%	3.4%
GI0028	173	99	0.7	240	1.4	515	715	3.9%	3.5%
GI0029	79	79	0.9	240	3.0	480	1,459	4.5%	3.4%
GI0031	73	73	1.2	300	4.1	510	2,094	4.0%	3.6%
GI0032	155	110	1.0	280	1.8	550	993	4.3%	3.4%
GI0039	193	130	0.7	275	1.4	504	719	4.1%	3.6%
GI0041	266	153	0.6	380	1.4	468	668	4.5%	3.7%
GI0045	292	165	0.7	380	1.3	482	628	4.9%	3.8%
GI0046	177	114	0.9	200	1.1	528	597	3.9%	3.4%
GI0048	342	180	0.7	500	1.5	514	752	4.0%	3.4%
GI0049	72	72	1.5	245	3.4	518	1,762	4.6%	3.6%
GI0051	293	162	0.8	425	1.5	413	599	3.9%	3.3%
GI0052	100	80	0.7	150	1.5	580	869	4.6%	3.8%
GI0053	92	92	1.3	320	3.5	506	1,760	4.3%	3.5%
GI0055	236	100	0.7	290	1.2	558	685	4.1%	3.5%
GI0056	189	125	0.8	320	1.7	405	686	5.4%	3.9%
GI0057	185	185	0.8	351	1.9	456	867	4.4%	3.6%
Average	189	124	0.9	294	1.8	471	849	4.3%	3.5%
Top 25%*	155	103	1.0	309	2.6	494	1,276	4.5%	3.6%

Farm number	Estimated grazed pasture**	Estimated conserved feed**	Home grown feed as % of ME consumed	Nitrogen application	Phosphorous application	Potassium application	Sulphur application	Labour efficiency	Labour efficiency
	T DM/ HA	T DM/ HA	% OF ME	KG/ HA	KG/ HA	KG/ HA	KG/ HA	COWS/ FTE	KG MS/ FTE
GI0004	6.4	0.5	81%	30	8	33	7	101	25,586
GI0005	6.0	0.6	71%	48	6	18	42	79	24,906
GI0011	5.4	0.0	62%	36	10	26	12	119	51,222
GI0012	7.5	1.4	71%	91	25	66	28	71	32,126
GI0017	3.0	0.0	48%	13	2	0	0	96	41,153
GI0021	5.2	1.4	67%	98	9	9	11	85	39,431
GI0022	5.6	0.0	73%	101	4	10	3	137	68,519
GI0023	10.4	0.6	65%	212	0	0	0	80	46,679
GI0025	10.3	0.2	70%	182	13	50	6	132	48,510
GI0028	6.1	2.3	64%	157	24	59	17	87	44,914
GI0029	11.7	0.1	66%	225	18	39	14	94	45,268
GI0031	14.3	0.7	62%	276	17	21	14	150	76,437
GI0032	8.9	2.3	76%	242	28	77	15	99	54,446
GI0039	5.1	2.0	64%	225	32	57	36	122	61,310
GI0041	6.4	0.9	66%	76	10	19	12	131	61,137
GI0045	5.7	1.4	67%	83	20	72	23	118	57,106
GI0046	5.6	0.6	69%	87	16	35	18	91	47,886
GI0048	6.3	1.6	61%	225	0	0	13	122	62,799
GI0049	11.8	0.6	62%	223	0	14	0	127	65,637
GI0051	6.5	1.6	73%	198	2	10	12	97	39,871
GI0052	4.5	1.5	62%	261	14	67	44	115	66,377
GI0053	11.4	0.9	62%	443	8	6	2	140	70,988
GI0055	8.0	1.4	53%	80	12	19	4	97	53,905
GI0056	7.5	1.3	78%	124	16	32	20	200	81,013
GI0057	4.8	2.1	64%	122	19	72	20	126	57,570
Average	7.4	1.2	66%	154	12	32	15	113	52,992
Top 25%*	9.9	1.0	64%	204	10	18	9	141	68,186

**on milking area.

TABLE D3
Purchased feed - Gippsland

Farm number	Purchased feed per milker**	Concentrate price	Silage price	Hay price	Other feed price	Average purchased feed price	Purchased feed as % of ME consumed
	T DM/ COW	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	% OF ME
GI0004	0.9	\$406				\$406	19%
GI0005	1.6	\$386		\$143		\$299	29%
GI0011	2.2	\$406		\$62		\$392	38%
GI0012	1.6	\$371		\$265		\$363	29%
GI0017	3.2	\$411	\$347	\$294		\$352	52%
GI0021	1.8	\$389		\$292	\$150	\$369	33%
GI0022	1.6	\$384				\$384	27%
GI0023	2.3	\$439				\$439	35%
GI0025	1.4	\$391		\$281		\$355	30%
GI0028	2.6	\$477		\$293		\$445	36%
GI0029	2.0	\$413	\$280	\$322	\$295	\$369	34%
GI0031	2.1	\$368	\$176	\$193		\$341	38%
GI0032	1.6	\$390				\$390	24%
GI0039	2.1	\$305				\$305	36%
GI0041	1.9	\$348		\$327		\$346	34%
GI0045	1.9	\$466				\$466	33%
GI0046	2.0	\$393		\$320		\$384	31%
GI0048	2.8	\$296	\$206	\$257		\$260	39%
GI0049	2.1	\$378		\$218		\$371	38%
GI0051	1.7	\$424		\$214		\$376	27%
GI0052	2.4	\$422		\$945		\$422	38%
GI0053	1.9	\$399		\$310		\$394	38%
GI0055	2.8	\$344		\$258		\$330	47%
GI0056	1.0	\$333		\$240		\$329	22%
GI0057	1.8	\$446	\$240	\$248		\$401	36%
Average	2.0	\$391	\$250	\$289	\$222	\$372	34%
Top 25%*	2.0	\$362				\$352	36%

** All purchased feed including concentrates, hay, silage and other feed fed on the milking area to all classes of livestock divided by the number of cows.

TABLE D4

Variable costs - Gippsland

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
GI0004	\$0.01	\$0.08	\$0.01	\$0.11	\$0.08	\$0.28	\$0.25	\$0.00	\$0.13
GI0005	\$0.13	\$0.04	\$0.13	\$0.15	\$0.23	\$0.68	\$0.71	\$0.00	\$0.18
GI0011	\$0.09	\$0.05	\$0.00	\$0.19	\$0.23	\$0.57	\$0.40	\$0.00	\$0.00
GI0012	\$0.14	\$0.11	\$0.07	\$0.10	\$0.09	\$0.51	\$0.45	\$0.00	\$0.14
GI0017	\$0.11	\$0.10	\$0.01	\$0.12	\$0.14	\$0.47	\$0.04	\$0.01	\$0.00
GI0021	\$0.08	\$0.14	\$0.04	\$0.16	\$0.12	\$0.54	\$0.21	\$0.00	\$0.24
GI0022	\$0.13	\$0.24	\$0.01	\$0.09	\$0.06	\$0.54	\$0.20	\$0.02	\$0.55
GI0023	\$0.12	\$0.09	\$0.05	\$0.09	\$0.06	\$0.41	\$0.28	\$0.34	\$0.08
GI0025	\$0.00	\$0.16	\$0.05	\$0.12	\$0.11	\$0.44	\$0.59	\$0.03	\$0.20
GI0028	\$0.18	\$0.13	\$0.06	\$0.12	\$0.10	\$0.58	\$0.57	\$0.00	\$0.20
GI0029	\$0.10	\$0.11	\$0.07	\$0.08	\$0.09	\$0.46	\$0.27	\$0.26	\$0.01
GI0031	\$0.21	\$0.20	\$0.02	\$0.10	\$0.08	\$0.61	\$0.28	\$0.32	\$0.03
GI0032	\$0.19	\$0.10	\$0.32	\$0.10	\$0.05	\$0.77	\$0.65	\$0.00	\$0.15
GI0039	\$0.16	\$0.13	\$0.02	\$0.14	\$0.08	\$0.52	\$0.67	\$0.00	\$0.28
GI0041	\$0.15	\$0.18	\$0.00	\$0.12	\$0.10	\$0.54	\$0.38	\$0.00	\$0.16
GI0045	\$0.15	\$0.11	\$0.09	\$0.10	\$0.15	\$0.60	\$0.64	\$0.00	\$0.41
GI0046	\$0.13	\$0.09	\$0.04	\$0.19	\$0.03	\$0.47	\$0.35	\$0.01	\$0.16
GI0048	\$0.12	\$0.12	\$0.10	\$0.10	\$0.07	\$0.51	\$0.40	\$0.00	\$0.24
GI0049	\$0.14	\$0.10	\$0.02	\$0.14	\$0.08	\$0.48	\$0.25	\$0.20	\$0.04
GI0051	\$0.21	\$0.37	\$0.06	\$0.10	\$0.07	\$0.80	\$0.47	\$0.00	\$0.59
GI0052	\$0.11	\$0.11	\$0.05	\$0.07	\$0.08	\$0.43	\$0.84	\$0.00	\$0.21
GI0053	\$0.07	\$0.07	\$0.02	\$0.12	\$0.13	\$0.42	\$0.27	\$0.21	\$0.09
GI0055	\$0.07	\$0.12	\$0.01	\$0.09	\$0.03	\$0.32	\$0.36	\$0.26	\$0.04
GI0056	\$0.15	\$0.12	\$0.04	\$0.12	\$0.09	\$0.53	\$0.42	\$0.00	\$0.15
GI0057	\$0.12	\$0.13	\$0.12	\$0.09	\$0.05	\$0.51	\$0.34	\$0.00	\$0.33
Average	\$0.12	\$0.13	\$0.06	\$0.12	\$0.10	\$0.52	\$0.41	\$0.07	\$0.18
Top 25%*	\$0.13	\$0.13	\$0.02	\$0.12	\$0.09	\$0.48	\$0.33	\$0.17	\$0.09

Farm number	Fuel and oil	Pasture improvement/cropping	Other feed costs	Fodder purchases	Grain/concentrates/other	Agistment costs	Feed and water inventory change	Total feed costs	Total variable costs
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
GI0004	\$0.09	\$0.43	\$0.00	\$0.00	\$1.42	\$0.00	\$0.48	\$2.81	\$3.09
GI0005	\$0.10	\$0.01	\$0.00	\$0.26	\$1.25	\$0.13	\$0.30	\$2.94	\$3.62
GI0011	\$0.17	\$0.01	\$0.01	\$0.01	\$2.04	\$0.00	-\$0.03	\$2.61	\$3.18
GI0012	\$0.08	\$0.06	\$0.11	\$0.08	\$1.28	\$0.00	-\$0.03	\$2.15	\$2.66
GI0017	\$0.04	\$0.01	\$0.01	\$1.43	\$1.51	\$0.00	\$0.15	\$3.21	\$3.68
GI0021	\$0.07	\$0.20	\$0.05	\$0.15	\$1.28	\$0.07	\$0.10	\$2.37	\$2.91
GI0022	\$0.15	\$0.15	\$0.10	\$0.00	\$1.32	\$0.00	\$0.06	\$2.56	\$3.09
GI0023	\$0.18	\$0.06	\$0.00	\$0.00	\$1.77	\$0.00	\$0.07	\$2.78	\$3.19
GI0025	\$0.10	\$0.30	\$0.00	\$0.45	\$1.33	\$0.01	\$0.04	\$3.05	\$3.48
GI0028	\$0.07	\$0.22	\$0.03	\$0.25	\$1.93	\$0.00	\$0.10	\$3.36	\$3.94
GI0029	\$0.10	\$0.07	\$0.00	\$0.47	\$1.03	\$0.24	\$0.04	\$2.49	\$2.95
GI0031	\$0.06	\$0.06	\$0.19	\$0.12	\$1.32	\$0.32	\$0.01	\$2.70	\$3.32
GI0032	\$0.10	\$0.15	\$0.01	\$0.00	\$1.24	\$0.00	\$0.19	\$2.48	\$3.26
GI0039	\$0.06	\$0.11	\$0.02	\$0.00	\$1.49	\$0.00	\$0.10	\$2.73	\$3.26
GI0041	\$0.06	\$0.03	\$0.01	\$0.15	\$1.26	\$0.00	\$0.22	\$2.27	\$2.81
GI0045	\$0.08	\$0.14	\$0.05	\$0.00	\$1.91	\$0.00	-\$0.12	\$3.11	\$3.71
GI0046	\$0.06	\$0.16	\$0.01	\$0.15	\$1.35	\$0.00	\$0.21	\$2.46	\$2.94
GI0048	\$0.06	\$0.09	\$0.13	\$0.57	\$0.88	\$0.00	\$0.01	\$2.38	\$2.89
GI0049	\$0.04	\$0.01	\$0.00	\$0.04	\$1.47	\$0.21	-\$0.04	\$2.23	\$2.71
GI0051	\$0.19	\$0.14	\$0.05	\$0.21	\$1.38	\$0.00	\$0.01	\$3.03	\$3.84
GI0052	\$0.08	\$0.40	\$0.00	\$0.00	\$1.77	\$0.00	\$0.38	\$3.68	\$4.12
GI0053	\$0.04	\$0.02	\$0.00	\$0.07	\$1.43	\$0.34	-\$0.03	\$2.43	\$2.85
GI0055	\$0.08	\$0.25	\$0.00	\$0.26	\$1.75	\$0.00	-\$0.07	\$2.94	\$3.27
GI0056	\$0.03	\$0.02	\$0.02	\$0.03	\$0.81	\$0.00	\$0.04	\$1.52	\$2.05
GI0057	\$0.05	\$0.15	\$0.00	\$0.25	\$1.55	\$0.41	-\$0.17	\$2.91	\$3.43
Average	\$0.09	\$0.13	\$0.03	\$0.20	\$1.43	\$0.07	\$0.08	\$2.69	\$3.21
Top 25%*	\$0.05	\$0.06	\$0.04	\$0.11	\$1.34	\$0.15	\$0.02	\$2.35	\$2.83

TABLE D5
Overhead costs - Gippsland

Farm number	Rates	Farm Insurance	Motor vehicle expenses	Repairs and maintenance	Other overheads	Employed labour	Total cash overheads	Depreciation	Imputed labour cost	Total overheads
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
GI0004	\$0.12	\$0.16	\$0.04	\$0.19	\$0.12	\$0.00	\$0.63	\$0.19	\$2.85	\$3.66
GI0005	\$0.13	\$0.10	\$0.13	\$0.03	\$0.10	\$0.00	\$0.49	\$0.09	\$2.90	\$3.48
GI0011	\$0.06	\$0.06	\$0.03	\$0.29	\$0.09	\$0.26	\$0.78	\$0.22	\$1.21	\$2.22
GI0012	\$0.13	\$0.05	\$0.01	\$0.32	\$0.22	\$0.41	\$1.14	\$0.25	\$1.76	\$3.15
GI0017	\$0.06	\$0.05	\$0.02	\$0.11	\$0.07	\$1.14	\$1.45	\$0.36	\$0.68	\$2.49
GI0021	\$0.05	\$0.06	\$0.04	\$0.32	\$0.23	\$0.98	\$1.67	\$0.16	\$0.68	\$2.51
GI0022	\$0.07	\$0.06	\$0.07	\$0.37	\$0.11	\$0.96	\$1.63	\$0.27	\$0.13	\$2.03
GI0023	\$0.04	\$0.07	\$0.02	\$0.27	\$0.21	\$0.90	\$1.51	\$0.42	\$0.41	\$2.33
GI0025	\$0.08	\$0.08	\$0.03	\$0.24	\$0.05	\$0.34	\$0.82	\$0.32	\$1.16	\$2.30
GI0028	\$0.08	\$0.04	\$0.03	\$0.33	\$0.07	\$0.63	\$1.19	\$0.12	\$0.77	\$2.08
GI0029	\$0.08	\$0.06	\$0.04	\$0.21	\$0.12	\$0.42	\$0.92	\$0.11	\$1.07	\$2.10
GI0031	\$0.04	\$0.05	\$0.00	\$0.31	\$0.11	\$1.20	\$1.71	\$0.10	\$0.00	\$1.81
GI0032	\$0.07	\$0.11	\$0.06	\$0.41	\$0.05	\$0.43	\$1.12	\$0.30	\$0.79	\$2.21
GI0039	\$0.05	\$0.07	\$0.00	\$0.20	\$0.07	\$0.41	\$0.80	\$0.13	\$0.75	\$1.68
GI0041	\$0.06	\$0.04	\$0.01	\$0.33	\$0.15	\$0.46	\$1.05	\$0.08	\$0.66	\$1.79
GI0045	\$0.08	\$0.06	\$0.01	\$0.18	\$0.12	\$0.53	\$0.98	\$0.12	\$0.71	\$1.81
GI0046	\$0.09	\$0.09	\$0.03	\$0.37	\$0.20	\$0.61	\$1.38	\$0.11	\$0.78	\$2.27
GI0048	\$0.05	\$0.04	\$0.03	\$0.27	\$0.04	\$0.34	\$0.77	\$0.07	\$0.82	\$1.66
GI0049	\$0.04	\$0.07	\$0.00	\$0.28	\$0.10	\$1.13	\$1.61	\$0.09	\$0.00	\$1.71
GI0051	\$0.05	\$0.07	\$0.10	\$0.31	\$0.23	\$1.33	\$2.09	\$0.23	\$0.41	\$2.74
GI0052	\$0.08	\$0.14	\$0.05	\$0.48	\$0.17	\$0.16	\$1.09	\$0.43	\$0.95	\$2.47
GI0053	\$0.04	\$0.07	\$0.01	\$0.17	\$0.19	\$0.12	\$0.60	\$0.15	\$0.83	\$1.57
GI0055	\$0.06	\$0.01	\$0.00	\$0.10	\$0.14	\$0.34	\$0.65	\$0.23	\$1.08	\$1.96
GI0056	\$0.06	\$0.07	\$0.01	\$0.19	\$0.04	\$0.00	\$0.36	\$0.41	\$0.90	\$1.67
GI0057	\$0.00	\$0.03	\$0.01	\$0.19	\$0.04	\$1.09	\$1.36	\$0.10	\$0.09	\$1.56
Average	\$0.07	\$0.07	\$0.03	\$0.26	\$0.12	\$0.57	\$1.11	\$0.20	\$0.90	\$2.21
Top 25%*	\$0.05	\$0.05	\$0.00	\$0.23	\$0.12	\$0.54	\$1.00	\$0.18	\$0.58	\$1.75

TABLE D6

Variable costs % - Gippsland

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
GI0004	0.1%	1.1%	0.1%	1.6%	1.2%	4.2%	3.7%	0.0%	2.0%
GI0005	1.9%	0.6%	1.8%	2.1%	3.3%	9.6%	10.1%	0.0%	2.5%
GI0011	1.6%	1.0%	0.0%	3.6%	4.2%	10.5%	7.5%	0.0%	0.0%
GI0012	2.4%	1.9%	1.2%	1.7%	1.5%	8.7%	7.7%	0.0%	2.3%
GI0017	1.8%	1.6%	0.1%	1.9%	2.2%	7.7%	0.7%	0.2%	0.0%
GI0021	1.5%	2.6%	0.7%	3.0%	2.2%	10.0%	3.9%	0.0%	4.3%
GI0022	2.6%	4.7%	0.2%	1.8%	1.2%	10.5%	3.9%	0.4%	10.7%
GI0023	2.1%	1.7%	1.0%	1.6%	1.0%	7.4%	5.0%	6.2%	1.4%
GI0025	0.0%	2.8%	0.8%	2.0%	1.9%	7.5%	10.2%	0.6%	3.5%
GI0028	3.0%	2.2%	1.0%	2.0%	1.6%	9.7%	9.4%	0.0%	3.3%
GI0029	2.1%	2.2%	1.4%	1.6%	1.7%	9.0%	5.3%	5.2%	0.1%
GI0031	4.1%	3.8%	0.5%	2.0%	1.6%	12.0%	5.5%	6.3%	0.6%
GI0032	3.4%	1.9%	5.9%	1.9%	1.0%	14.1%	11.9%	0.0%	2.7%
GI0039	3.3%	2.7%	0.3%	2.8%	1.6%	10.6%	13.6%	0.0%	5.6%
GI0041	3.2%	3.9%	0.0%	2.7%	2.1%	11.8%	8.2%	0.0%	3.6%
GI0045	2.7%	2.0%	1.7%	1.8%	2.7%	10.9%	11.6%	0.0%	7.5%
GI0046	2.4%	1.8%	0.7%	3.7%	0.5%	9.1%	6.7%	0.3%	3.1%
GI0048	2.5%	2.7%	2.1%	2.3%	1.6%	11.3%	8.8%	0.0%	5.2%
GI0049	3.3%	2.2%	0.5%	3.1%	1.8%	10.8%	5.6%	4.6%	0.9%
GI0051	3.1%	5.6%	0.9%	1.5%	1.1%	12.2%	7.2%	0.0%	9.0%
GI0052	1.7%	1.7%	0.7%	1.1%	1.3%	6.6%	12.8%	0.0%	3.2%
GI0053	1.6%	1.6%	0.5%	2.7%	3.0%	9.5%	6.0%	4.7%	2.0%
GI0055	1.3%	2.4%	0.2%	1.7%	0.6%	6.2%	6.9%	5.0%	0.8%
GI0056	4.1%	3.3%	1.1%	3.2%	2.5%	14.2%	11.2%	0.0%	4.1%
GI0057	2.5%	2.7%	2.4%	1.8%	1.0%	10.3%	6.8%	0.0%	6.6%
Average	2.3%	2.4%	1.0%	2.2%	1.8%	9.8%	7.6%	1.3%	3.4%
Top 25%*	2.9%	2.9%	0.5%	2.6%	1.9%	10.7%	7.2%	3.4%	2.0%

Farm number	Fuel and oil	Pasture improvement/cropping	Other feed costs	Fodder purchases	Grain/concentrates/other	Agistment costs	Feed and water inventory change	Total feed costs	Total variable costs
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
GI0004	1.4%	6.3%	0.0%	0.0%	21.1%	0.0%	7.2%	41.6%	45.8%
GI0005	1.4%	0.1%	0.0%	3.6%	17.6%	1.9%	4.2%	41.4%	51.0%
GI0011	3.2%	0.1%	0.3%	0.2%	37.7%	0.0%	-0.6%	48.4%	58.9%
GI0012	1.3%	1.1%	1.8%	1.3%	22.0%	0.0%	-0.5%	37.0%	45.8%
GI0017	0.7%	0.2%	0.2%	23.2%	24.4%	0.0%	2.4%	52.0%	59.7%
GI0021	1.2%	3.7%	0.9%	2.7%	23.7%	1.3%	1.8%	43.7%	53.7%
GI0022	3.0%	3.0%	1.9%	0.0%	25.8%	0.0%	1.2%	49.9%	60.3%
GI0023	3.3%	1.2%	0.0%	0.0%	32.0%	0.0%	1.2%	50.3%	57.7%
GI0025	1.7%	5.2%	0.0%	7.9%	23.0%	0.1%	0.7%	52.7%	60.3%
GI0028	1.1%	3.6%	0.4%	4.2%	32.1%	0.0%	1.7%	55.8%	65.5%
GI0029	2.1%	1.4%	0.0%	9.4%	20.4%	4.7%	0.7%	49.3%	58.3%
GI0031	1.2%	1.2%	3.7%	2.3%	25.7%	6.2%	0.1%	52.8%	64.8%
GI0032	1.8%	2.7%	0.2%	0.0%	22.6%	0.0%	3.5%	45.4%	59.5%
GI0039	1.2%	2.3%	0.5%	0.0%	30.1%	0.0%	2.1%	55.4%	66.0%
GI0041	1.3%	0.6%	0.1%	3.3%	27.3%	0.0%	4.9%	49.3%	61.1%
GI0045	1.5%	2.5%	0.8%	0.0%	34.6%	0.0%	-2.2%	56.3%	67.2%
GI0046	1.1%	3.0%	0.2%	2.9%	26.0%	0.0%	4.0%	47.3%	56.4%
GI0048	1.4%	2.0%	2.8%	12.6%	19.2%	0.0%	0.2%	52.3%	63.6%
GI0049	1.0%	0.2%	0.1%	0.9%	33.4%	4.8%	-0.8%	50.6%	61.3%
GI0051	2.9%	2.1%	0.7%	3.2%	21.0%	0.0%	0.1%	46.1%	58.4%
GI0052	1.2%	6.0%	0.0%	0.0%	26.9%	0.0%	5.8%	55.9%	62.5%
GI0053	0.9%	0.4%	0.0%	1.5%	32.3%	7.8%	-0.7%	55.0%	64.5%
GI0055	1.6%	4.9%	0.0%	5.0%	33.4%	0.0%	-1.3%	56.3%	62.5%
GI0056	0.9%	0.5%	0.5%	0.8%	21.7%	0.0%	1.1%	40.8%	55.0%
GI0057	1.1%	3.1%	0.0%	5.0%	31.0%	8.2%	-3.3%	58.5%	68.8%
Average	1.6%	2.3%	0.6%	3.6%	26.6%	1.4%	1.3%	49.8%	59.5%
Top 25%*	1.1%	1.3%	0.7%	2.3%	29.0%	3.1%	0.5%	50.8%	61.5%

TABLE D7

Overhead costs - Gippsland

Farm number	Rates	Farm Insurance	Motor vehicle expenses	Repairs and maintenance	Other overheads	Employed labour	Total cash overheads	Depreciation	Imputed labour cost	Total overheads
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
GI0004	1.7%	2.4%	0.6%	2.8%	1.8%	0.0%	9.3%	2.8%	42.2%	54.2%
GI0005	1.8%	1.5%	1.8%	0.4%	1.5%	0.0%	6.9%	1.3%	40.9%	49.0%
GI0011	1.1%	1.1%	0.5%	5.4%	1.6%	4.8%	14.5%	4.1%	22.5%	41.1%
GI0012	2.2%	0.9%	0.2%	5.4%	3.8%	7.1%	19.6%	4.2%	30.4%	54.2%
GI0017	0.9%	0.9%	0.3%	1.8%	1.1%	18.5%	23.4%	5.9%	11.0%	40.3%
GI0021	0.8%	1.1%	0.7%	5.8%	4.2%	18.0%	30.7%	3.0%	12.6%	46.3%
GI0022	1.4%	1.2%	1.3%	7.3%	2.1%	18.7%	31.9%	5.2%	2.6%	39.7%
GI0023	0.7%	1.2%	0.3%	4.9%	3.9%	16.4%	27.3%	7.6%	7.3%	42.3%
GI0025	1.4%	1.3%	0.5%	4.1%	0.9%	5.9%	14.1%	5.6%	20.0%	39.7%
GI0028	1.3%	0.6%	0.6%	5.4%	1.2%	10.5%	19.7%	2.0%	12.8%	34.5%
GI0029	1.5%	1.2%	0.7%	4.2%	2.3%	8.3%	18.2%	2.2%	21.3%	41.7%
GI0031	0.7%	0.9%	0.0%	6.0%	2.1%	23.5%	33.3%	1.9%	0.0%	35.2%
GI0032	1.2%	2.0%	1.1%	7.5%	0.9%	7.8%	20.5%	5.4%	14.5%	40.5%
GI0039	1.0%	1.4%	0.1%	4.1%	1.3%	8.3%	16.2%	2.7%	15.1%	34.0%
GI0041	1.4%	1.0%	0.2%	7.1%	3.2%	9.9%	22.8%	1.7%	14.3%	38.9%
GI0045	1.4%	1.1%	0.2%	3.4%	2.1%	9.6%	17.8%	2.1%	12.9%	32.8%
GI0046	1.7%	1.7%	0.5%	7.0%	3.9%	11.7%	26.5%	2.2%	14.9%	43.6%
GI0048	1.1%	0.9%	0.6%	6.0%	0.9%	7.5%	16.9%	1.5%	18.1%	36.4%
GI0049	0.8%	1.6%	0.0%	6.4%	2.2%	25.6%	36.5%	2.1%	0.0%	38.7%
GI0051	0.7%	1.1%	1.5%	4.8%	3.4%	20.2%	31.7%	3.6%	6.3%	41.6%
GI0052	1.3%	2.1%	0.7%	7.3%	2.6%	2.5%	16.5%	6.5%	14.5%	37.5%
GI0053	0.9%	1.5%	0.2%	3.9%	4.2%	2.8%	13.5%	3.3%	18.7%	35.5%
GI0055	1.1%	0.2%	0.1%	1.9%	2.6%	6.5%	12.4%	4.5%	20.7%	37.5%
GI0056	1.6%	1.9%	0.2%	5.0%	1.0%	0.0%	9.7%	11.1%	24.2%	45.0%
GI0057	0.0%	0.7%	0.1%	3.8%	0.9%	21.9%	27.4%	2.1%	1.8%	31.2%
Average	1.2%	1.3%	0.5%	4.9%	2.2%	10.6%	20.7%	3.8%	16.0%	40.5%
Top 25%*	1.1%	1.2%	0.1%	5.1%	2.6%	11.4%	21.4%	4.1%	13.0%	38.5%

TABLE D8

Capital Structure - Gippsland

Farm Assets					Other farm assets (per usable hectare)				Total assets
Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets		
\$/HA	\$/COW	\$/HA	\$/COW	\$/HA	\$/HA	\$/HA	\$/HA		
Average	\$17,027	\$8,873	\$4,062	\$1,534	\$935	\$3,729	\$137	\$990	\$21,167
Top 25%*	\$15,941	\$7,249	\$6,103	\$2,172	\$854	\$5,205	\$70	\$800	\$27,304

Liabilities				Equity		
Liabilities per usable hectare		Liabilities per milking cow		Equity per usable hectare		
\$/HA		\$/COW		\$/HA	%	
Average		\$7,808		\$4,679	\$13,671	64%
Top 25%*		\$9,623		\$4,002	\$17,681	65%

TABLE D9

Historical Data - Gippsland

	Income				Variable costs							
	Milk income (net)		Gross farm income		Herd costs		Shed costs		Feed costs		Total variable costs	
	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)
2006-07	\$4.46	\$5.75	\$5.16	\$6.66	\$0.23	\$0.29	\$0.15	\$0.19	\$2.31	\$2.98	\$2.72	\$3.51
2007-08	\$6.62	\$8.18	\$7.58	\$9.36	\$0.27	\$0.34	\$0.13	\$0.16	\$2.80	\$3.46	\$3.30	\$4.07
2008-09	\$5.32	\$6.47	\$6.05	\$7.36	\$0.25	\$0.31	\$0.15	\$0.19	\$2.61	\$3.17	\$3.01	\$3.66
2009-10	\$4.38	\$5.17	\$5.07	\$5.98	\$0.22	\$0.26	\$0.17	\$0.19	\$1.95	\$2.29	\$2.33	\$2.75
2010-11	\$5.59	\$6.36	\$6.34	\$7.21	\$0.28	\$0.31	\$0.19	\$0.21	\$2.06	\$2.34	\$2.52	\$2.87
2011-12	\$5.37	\$6.04	\$5.89	\$6.63	\$0.29	\$0.32	\$0.18	\$0.21	\$2.12	\$2.38	\$2.59	\$2.91
2012-13	\$4.75	\$5.22	\$4.99	\$5.48	\$0.31	\$0.34	\$0.22	\$0.24	\$2.31	\$2.54	\$2.85	\$3.13
2013-14	\$6.62	\$7.07	\$7.33	\$7.82	\$0.31	\$0.33	\$0.21	\$0.23	\$2.67	\$2.85	\$3.19	\$3.41
2014-15	\$5.88	\$6.18	\$6.51	\$6.84	\$0.32	\$0.34	\$0.20	\$0.21	\$2.63	\$2.76	\$3.15	\$3.31
2015-16	\$5.28	\$5.49	\$5.79	\$6.02	\$0.30	\$0.32	\$0.20	\$0.21	\$2.73	\$2.85	\$3.24	\$3.37
2016-17	\$4.84	\$4.94	\$5.50	\$5.62	\$0.27	\$0.28	\$0.20	\$0.20	\$2.21	\$2.26	\$2.68	\$2.73
2017-18	\$5.74	\$5.74	\$6.26	\$6.26	\$0.31	\$0.31	\$0.21	\$0.21	\$2.69	\$2.69	\$3.21	\$3.21
Average		\$6.05		\$6.77		\$0.31		\$0.20		\$2.71		\$3.24

Notes: 'Real' dollar values are the nominal values converted to 2017-18 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.

	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		Return on total assets	Return on equity
	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	%	%
2006-07	\$0.69	\$0.89	\$1.44	\$1.85	\$2.13	\$2.75	\$0.31	\$0.40	\$0.57	\$0.73	-\$0.26	-\$0.33	0.8%	-2.1%
2007-08	\$0.80	\$0.98	\$0.90	\$1.11	\$1.59	\$1.97	\$2.69	\$3.32	\$0.61	\$0.75	\$2.08	\$2.57	9.7%	14.9%
2008-09	\$0.78	\$0.95	\$0.93	\$1.13	\$1.71	\$2.08	\$1.28	\$1.55	\$0.51	\$0.62	\$0.76	\$0.93	4.0%	3.4%
2009-10	\$0.80	\$0.95	\$1.09	\$1.29	\$1.90	\$2.24	\$0.80	\$0.94	\$0.70	\$0.82	\$0.10	\$0.12	2.6%	0.7%
2010-11	\$0.93	\$1.06	\$0.93	\$1.05	\$1.86	\$2.12	\$1.96	\$2.23	\$0.67	\$0.76	\$1.29	\$1.47	6.1%	9.9%
2011-12	\$0.95	\$1.07	\$1.05	\$1.18	\$2.01	\$2.26	\$1.30	\$1.46	\$0.65	\$0.74	\$0.64	\$0.72	4.4%	5.1%
2012-13	\$1.09	\$1.19	\$1.19	\$1.31	\$2.28	\$2.50	-\$0.14	-\$0.15	\$0.73	\$0.80	-\$0.86	-\$0.95	-0.2%	-6.2%
2013-14	\$1.04	\$1.11	\$1.07	\$1.14	\$2.11	\$2.25	\$2.03	\$2.16	\$0.69	\$0.73	\$1.34	\$1.43	6.4%	10.2%
2014-15	\$1.05	\$1.10	\$0.96	\$1.01	\$2.00	\$2.11	\$1.36	\$1.43	\$0.68	\$0.72	\$0.68	\$0.71	4.7%	4.6%
2015-16	\$1.09	\$1.13	\$1.13	\$1.17	\$2.22	\$2.31	\$0.33	\$0.35	\$0.64	\$0.66	-\$0.30	-\$0.31	1.3%	-2.3%
2016-17	\$1.03	\$1.05	\$1.07	\$1.09	\$2.10	\$2.14	\$0.73	\$0.74	\$0.68	\$0.69	\$0.05	\$0.05	2.3%	0.7%
2017-18	\$1.11	\$1.11	\$1.10	\$1.10	\$2.21	\$2.21	\$0.84	\$0.84	\$0.69	\$0.69	\$0.15	\$0.15	3.0%	1.0%
Average		\$1.05		\$1.20		\$2.24		\$1.27		\$0.73		\$0.55	3.8%	3.3%

TABLE D10

Historical Data - Gippsland

	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	
	HA	HA	T DM/100MM /HA	COWS	COWS/HA	KG MS/ COW	KG MS/ HA	T DM/ HA	T DM/ HA	% OF ME	NOMINAL (\$/T DM)	REAL (\$/ T DM)
2006-07	191	187	0.8	282	1.4	405	579	5.6	1.2	71%	\$339	\$437
2007-08	181	174	0.9	289	1.6	464	741	7.2	1.1	74%	\$451	\$557
2008-09	182	172	0.9	276	1.6	483	803	7.2	0.8	71%	\$385	\$468
2009-10	172	160	0.8	268	1.7	472	792	7.6	0.9	73%	\$273	\$322
2010-11	190	187	0.8	285	1.6	494	811	7.1	1.7	69%	\$315	\$359
2011-12	189	126	0.6	291	1.7	501	843	7.4	0.9	62%	\$311	\$350
2012-13	194	134	0.8	299	1.7	462	781	6.9	0.6	62%	\$356	\$391
2013-14	186	126	0.8	284	1.8	468	835	7.6	1.0	68%	\$403	\$430
2014-15	189	123	0.9	304	1.8	479	890	7.4	1.1	66%	\$419	\$441
2015-16	201	122	0.7	291	1.7	482	836	6.9	1.0	59%	\$418	\$435
2016-17	203	122	0.8	290	1.7	486	823	7.8	1.4	70%	\$350	\$358
2017-18	189	124	0.9	294	1.8	471	849	7.4	1.2	66%	\$391	\$391
Average	189	147	0.8	288	1.7	472	799	7.2	1.1	68%		\$412

* From 2006-07 to 2010-11 estimated grazed pasture and conserved feed was calculated per usable hectare. From 2011-12 estimated grazed pasture and conserved feed was calculated per hectare of milking area.

Appendix E:

Glossary of terms

All other income

Income to the farm from all sources except milk. Includes livestock trading profit, dividends, interest payments received, and rent from farm cottages.

Appreciation

An increase in the value of an asset in the market place. 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 of production

The cost of producing the main product of the business; milk. Usually expressed in terms of the main enterprise output i.e. dollars per kilogram of milk solids. It is reported at the following levels;

- Cash cost of production; variable costs plus cash overhead costs
- Cost of production excluding inventory changes; variable costs plus cash and non-cash overhead costs
- Cost of production including inventory changes; variable costs plus cash and non-cash overhead costs, accounting for feed inventory change and livestock inventory change minus livestock purchases

Cost structure

Variable costs as a percentage of total costs, where total costs equals variable costs plus overhead costs.

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 & 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 %

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 energetics method. Grazed pasture is calculated as the gap between total energy required by livestock over the year and amount of energy available from other sources (hay, silage, grain and concentrates).

Total energy required by livestock is a factor of age, weight, growth rate, pregnancy and lactation requirements, distance to shed, terrain and number of animals.

Total energy available is the sum of energy available from all feed sources except pasture, calculated as (weight (kg) x dry matter content (DM %) 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, valued at \$30.33 per hour.

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 kilogram of milk solid. Measures of productivity of the total labour resources in the business.

Labour resource

Any person who works in the business, be they the owner, family, sharefarmer or employed on a permanent, part time or contract basis.

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. An increase in livestock trading indicates there was an appreciation of livestock or an increase in livestock numbers over the year.

Metabolisable energy

Energy available to livestock in feed, expressed in megajoules per kilogram of dry matter (MJ/kg DM).

Milk income

Income through the sales of milk. This is net of compulsory levies and charges.

Milking area

Total usable area minus out-blocks or run-off areas.

Net farm income

Previously reported as business profit.

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 rents 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 non-cash 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.

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 eg house and shed area.

Total water use efficiency

Home grown feed consumed or harvested per 100 mm 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 inventory change).

Water inventory change

An estimate of the irrigation water on hand at the start and end of the financial year to capture water used in the production of pasture and crops.

List of abbreviations

AI	Artificial insemination
CH₄	Methane gas
CO₂	Carbon dioxide gas
CO₂-e	Carbon dioxide equivalent
CoP	Cost of production
DFMP	Dairy Farm Monitor Project
DM	Dry matter of feed stuffs
DEDJTR	Department of Economic Development, Jobs, Transport and Resources, Victoria
EBIT	Earnings before interest and tax
FTE	Full time equivalent
GWP	Global Warming Potential.
ha	Hectare(s)
HRWS	High Reliability Water Shares
kg	Kilograms
LRWS	Low Reliability Water Shares.
ME	Metabolisable energy (MJ/kg)
MJ	Megajoules of energy
mm	Millimetres. 1 mm is equivalent to 4 points or 1/25th of an inch of rainfall
MS	Milk solids (proteins and fats)
N₂O	Nitrous oxide gas
Q1	First quartile, i.e. the value of which one quarter, or 25%, of data in that range is less than
Q3	Third quartile, i.e. the value of which one quarter, or 25%, of data in that range is greater than
RoTA	Return on total assets
RoE	Return on equity
t	Tonne = 1,000 kg
Top 25%	Regional or State average for the top 25% of farms ranked by return on total assets Can also be referred to as the top group, top performers within a region or the State

Standard values

Irrigation values

The 2017-18 standard values to estimate the inventory values of irrigation water in the North were:

Category	Opening value (\$/ML)	Closing value (\$/ML)
HRWS *	\$2,812	\$2,812
LRWS*	\$369	\$369
Carry over water (allocation)*	\$110	\$110
Ground water (permanent)	\$577	\$577
Ground water (temporary)	\$51	\$51

*Weighted average of all trades above \$10/ML in trading zone 1A Greater Goulburn

Livestock values

The standard vales used to estimate the inventory values of livestock were:

Category	Opening value (\$/hd)	Closing value (\$/hd)
Mature cows	\$1,600	\$1,600
15-16 heifers	\$1,200	\$1,600
16-17 heifers	\$600	\$1,200
17-8 calves		\$600
Mature bulls	\$2,400	\$2,400

Imputed owner/operator and family labour

In 2017-18 the imputed owner/operator and family labour rate was \$30.33/hr based on a full time equivalent (FTE) working 48 hours/week for 50 weeks of the year. The imputed labour rate was increased from \$67,200/FTE in 2016-17 to \$72,800/FTE in 2017-18.





Customer Service Centre **136 186**

www.agriculture.vic.gov.au