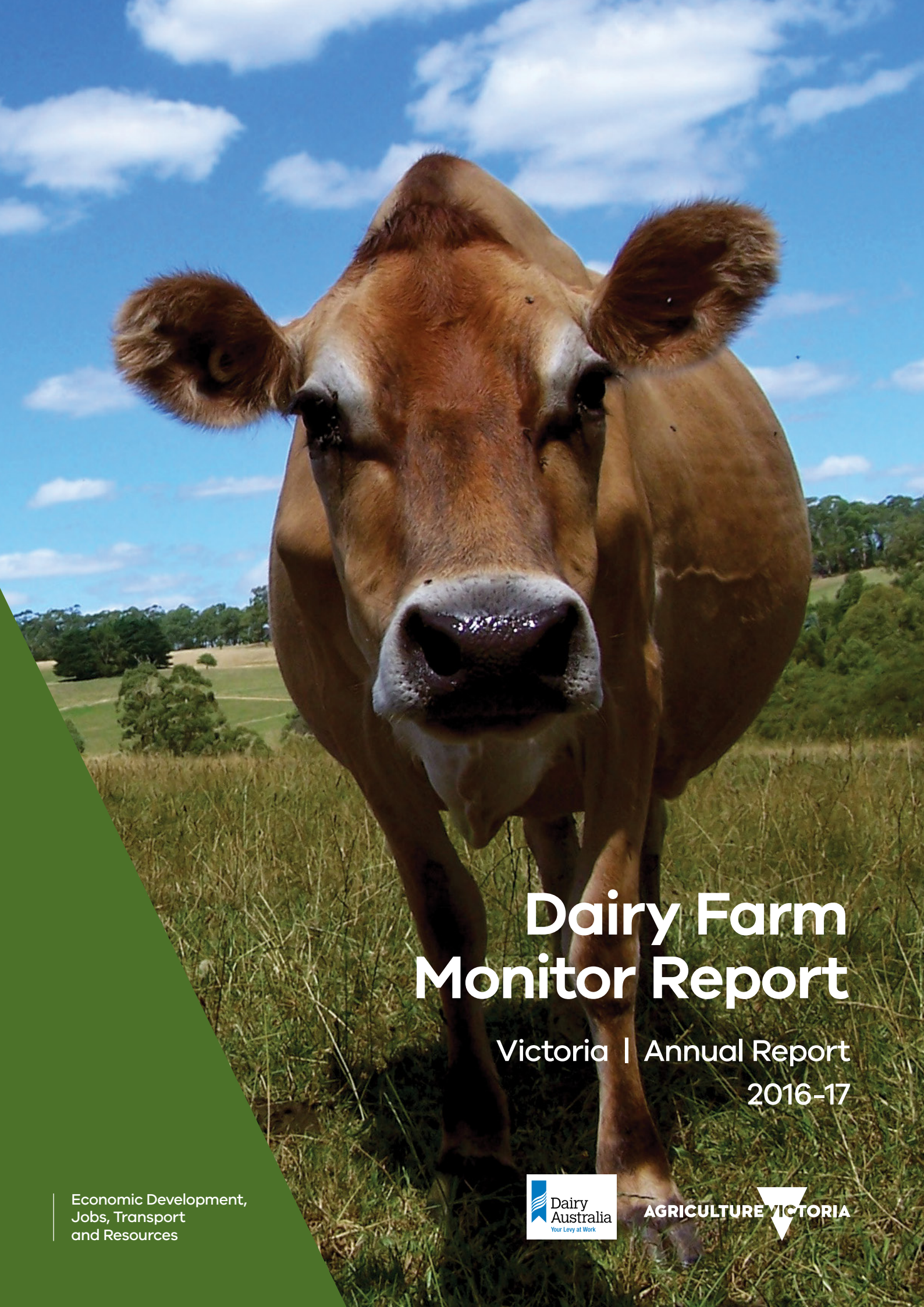

Dairy Farm Monitor Report

Victoria | Annual Report 2016-17

Economic Development, Jobs, Transport and Resources

Dairy Australia
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AGRICULTURE VICTORIA

Acknowledgements

The cooperation, patience and goodwill of the farmers who willingly supplied their farm information, for either the first time or eleventh consecutive year, are gratefully acknowledged.

The diligent work of DEDJTR Dairy Services who gathered the final performance data deserve particular thanks, especially Olive Montecillo, Sam Henty, Michele Jolliffe, Ash Michael, and Mick O'Keefe, who continued to be actively involved in the report through to its publication. Thanks to Jo Campbell for providing a thorough review of the report.

The project was also made possible this year through the contributions of Dan Armstrong, Daryl Poole, Jacqui Knee and Paul Groves who collected farm data and provided feedback and validation to ensure its accuracy.

Thank you to Brett Mitchard from DEDJTR Ellinbank for creating the map used in this publication.

This report has been produced in conjunction with Dairy Australia.

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

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

Print managed by Finsbury Green.
Printed by Impact Digital, Brunswick
ISSN 1835-9922

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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

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How to read this report

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

This report is presented in the following sections:

- Summary
- Farm monitor 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 in order to represent a distribution of farm sizes, herd sizes and geographical locations within each region. The results presented in this report do not represent population averages as the participant farms were not selected using random population sampling.

The report presents visual descriptions of the data for the 2016-2017 year. Data are presented for individual farms, as regional averages and for the regional top 25% of farms ranked by return on assets. The presented averages should not be considered averages for the population of farms in a given region due to the small sample size and these farms not being randomly selected.

The top 25% of farms are presented as lighter coloured bars in the regional overview Figures. Return on assets is the determinate used to identify the top 25% of producers as it provides an assessment of the performance of the whole farm irrespective of differences in location and production system.

The Q1 - Q3 data range for key indicators are also 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 is less than the average. The Q3 value is the quartile 3 value that is the value of which one quarter (75%) of data in that range is greater than the average. Therefore the middle 50% of data resides between the Q1-Q3 data range. Given the differences in variation in the regional data, we do not recommend comparing one region to another.

This report often 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 the majority of financial information per kilogram of milk solids.

Percentage differences are calculated as [(new value – original value)/original value]. For example 'costs went from $80/ha to $120/ha, a 50% increase': [{(120-80)/80} x (100/1)] = [(40/80) x 100] = 0.5 x 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 2015-16 Dairy Farm Monitor Project report. Price and cost comparisons between years are nominal unless otherwise stated. It should be noted that not all of the participants from 2015-16 are in the 2016-17 report, as there were new participants in this year's dataset. It is important to bear this in mind when comparing datasets between years. Reference is made at the start of each regional chapter on which farms are new to the project.

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

What's new in 2016-17

The Dairy Farm Monitor Report for 2016-17 includes few changes since last year's report.

- All Dairy Farm Monitor Project data from Victoria, South Australia, New South Wales, Western Australia and Tasmania now provide the baseline data for comparative purposes in DairyBase, Dairy Australia's national dairy industry database for farm level data.
- The Pasture Calculator used in the production of this report this year is not the DEDJTR Pasture Consumption Calculator. In 2016-17, pasture consumption figures have been calculated within DairyBase, meaning results may not be directly comparable to previous years' reports.
- In 2016-17 gross farm income does not include feed inventory change, as it has in previous years. Feed inventory change and, if applicable, change in the value of carry-over water are included as feed costs.
- Data in this report are produced used standard values, which have been outlined in Appendix E. These standard values for livestock and imputed labour have remained unchanged since last year, but irrigation water values have been revised. These standard values may vary from other organisation's standard values. Take care with directly comparing the results of multiple benchmarking studies without due diligence investigating the assumptions made in each data set.
- Australia's dairy industry greenhouse gas emissions estimator, the national greenhouse gas inventory (NGGI), was used in conjunction with the physical and financial data provided by participant farms which remains unchanged from last year but may differ to other Greenhouse Gas Emission calculator outputs.

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

www.agriculture.vic.gov.au /dairyfarmmonitor
or
www.dairyaustralia.com.au/dairyfarmmonitor

I. Summary

Summary

Average whole farm earnings before interest and tax (EBIT) increased to $166,878, a 130% increase compared with the previous year and the fifth lowest level recorded over the eleven year history of the project. Return on assets was 2.5% compared with last year's 0.6%. Net farm income was $52,120 which resulted in a return on equity of 1.0%.

This is the eleventh year the Dairy Farm Monitor Project has provided farm level data relating to profitability and production in Victoria.

In 2016-17 eighty nine per cent of participants (67 of 75 farms) recorded a positive return on assets compared to 45 of 75 farms last year.

Dairy farm profitability improved slightly in 2016-17 due to more favourable seasonal conditions and careful cost management. Farmers were informed early they would receive a lower average milk price this season and made management decisions to minimise the impact on their profitability.

The average milk price received reduced by 6% to $5.07/kg MS, compared to $5.40/kg MS last year, the third year in a row with declining average milk prices received on average.

The North

The first half of 2016-17 provided too much rain and some paddocks were not accessible due to water inundation so pasture production and milk production did not reach the normal peaks and there were resulting animal health issues. The reduction of temporary water prices from $236/ML to $65/ML gave some respite to those purchasing water on the temporary market. Farmers are relatively optimistic for 2017-18 due mainly to the water availability and improved milk price announcement.

The North received an average milk price of $5.13/kg MS, a 6% reduction from last year ($5.46/kg MS), and despite actively undertaking cost cutting measures profitability only increased to barely positive levels in 2016-17. Return on assets increased to 1.0% (a better performance than negative 0.1% last year), but return on equity remained below 0%. Earnings before interest and tax increased to $112,428/farm from $49,842/farm last year, and net farm income of $4,101/farm.

The South West

The South West participants received the highest milk price of all three regions at $5.25/kg MS, however this was a 4% reduction from the previous year.

The South West received 113% of the long term rainfall and farmers in this region were able to take advantage of favourable growing conditions to bolster fodder production this year both for direct grazing and conservation.

Earnings before interest and tax was 2.9 times higher than last year at $259,247/farm, resulting in a return on assets of 4.2%, much improved from 0.6% last year. Net farm income for the South West was on average $117,190/farm, with the resulting return on equity of 4.2%, being the highest of all three regions in 2016-17.

Gippsland

Gippsland received 89% of average long term rainfall in 2016-17, which provided favourable growing conditions to improve availability of home grown forage this year. Lower amounts of imported feed were required, providing an opportunity to reduce feed costs in a year where cost management was vital.

In real terms, Gippsland received the lowest milk price in the 11-year history of the project at $4.84/kg MS. This 8% reduction in milk price from $5.28/kg MS last year put further pressure on farmers to find alternative ways of reducing costs.

Careful cost management and a kinder season resulted in 23 of the 25 farms recording a positive EBIT with an average of $128,960/farm compared to $72,311/farm last year. Return on assets increased from 1.3% last year to 2.3% this year. Net farm income was $35,068 resulting in a return on equity of 0.7%.

Farmer confidence

Following another challenging season, expectations for the 2017-18 season are optimistic with the majority of farmers predicting an improvement in farm business returns. Sixty-seven farmers (89%) predicted their business returns will improve and eight farmers (11%) expected no change or their business returns to deteriorate in 2017-18. This is notably different to the less optimistic expectations recorded in 2015-16.

Historical analysis

In Victoria, 2016-17 was characterised by record low milk prices and above average rainfall. In each region business performance improved from 2015-16. Regional results from 2016-17 can be most closely compared to those recorded in 2009-10. In 2009-10 milk prices were low because of the impact of the 2008-09 global financial crisis but seasonal conditions and irrigation allocations this year were good across the state allowing farmers to decrease their overall cost of production.

II. Farm monitor method

Farm monitor method

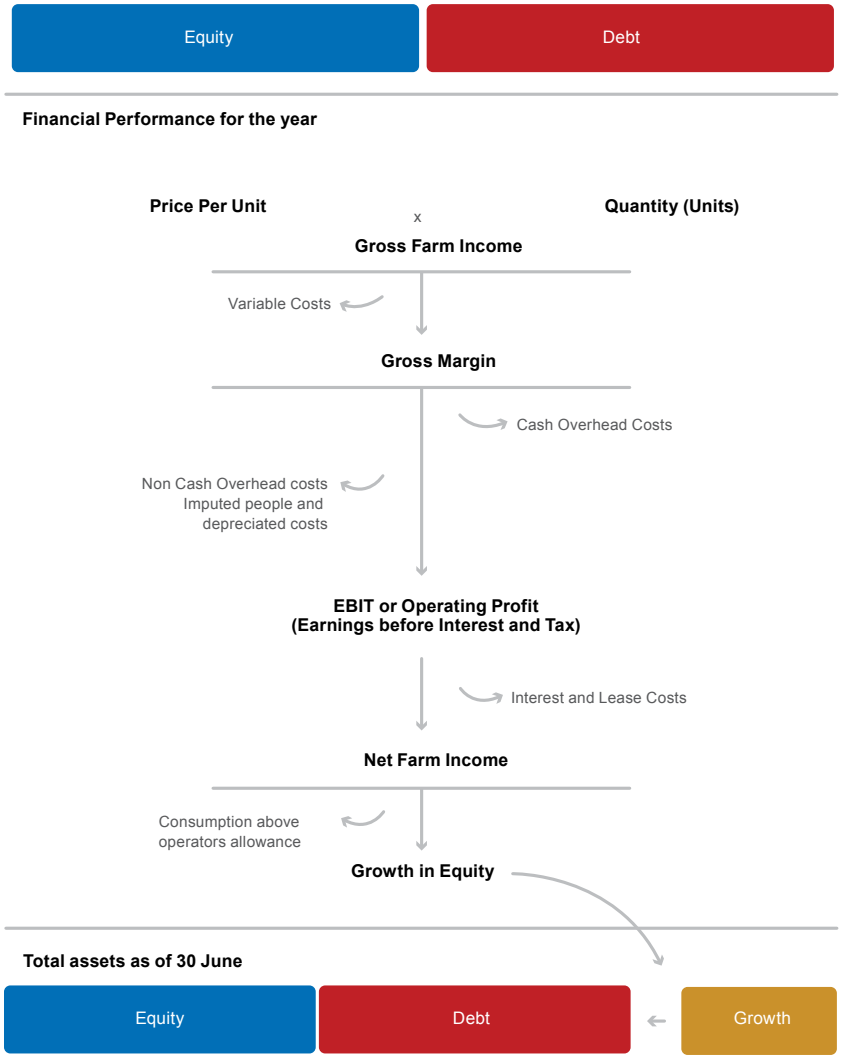
This chapter explains the method used in the Dairy Farm Monitor Project (DFMP) and defines the key terms used.

The method employed to generate the profitability and productivity data was adapted from that described in The Farming Game (Malcolm et al. 2005) and is consistent with previous Dairy Farm Monitor Project reports. Readers should be aware that not all benchmarking programs use the same method or terms for farm financial reporting. The allocation of items such as lease costs, overhead costs or imputed labour costs against the farm enterprises varies between financial benchmarking programs. Standard dollar values for items such as stock and feed on hand and imputed labour rates may also vary. For this reason, the results from different benchmarking programs should be compared with caution.

Figure 1 demonstrates how the different farm business economic terms fit together and are calculated. This has been adapted from an initial diagram developed by Bill Malcolm. The diagram shows the different profitability measures as costs are deducted from gross farm income. Growth 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 the maximisation of income and minimisation of costs, or cost efficiency relative to income generation.

The performance of all participants in the project using this method is shown in Figure 2. Production and economic data are both displayed to indicate how the terms are calculated and how they in turn fit together.

FIGURE 1. DAIRY FARM MONITOR PROJECT METHOD



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 such as milk share dividends. The main source of income is from milk, which is calculated by multiplying price received per unit by the number of units. For example, dollars per kilogram milk solids multiplied by kilograms of milk solids produced. Subtracting certain costs from total income gives different profitability measures.

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 referred to in economic analysis 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 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 the amount of depreciation on a piece of equipment. Imputed operators' 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 the return on the capital of the business is to be obtained.

Earnings before interest and tax

Earnings before interest and tax (EBIT) are calculated by subtracting variable and overhead costs from gross farm income. Earnings before interest and tax is sometimes referred to as operating profit and is the return from all the 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 assets and return on equity

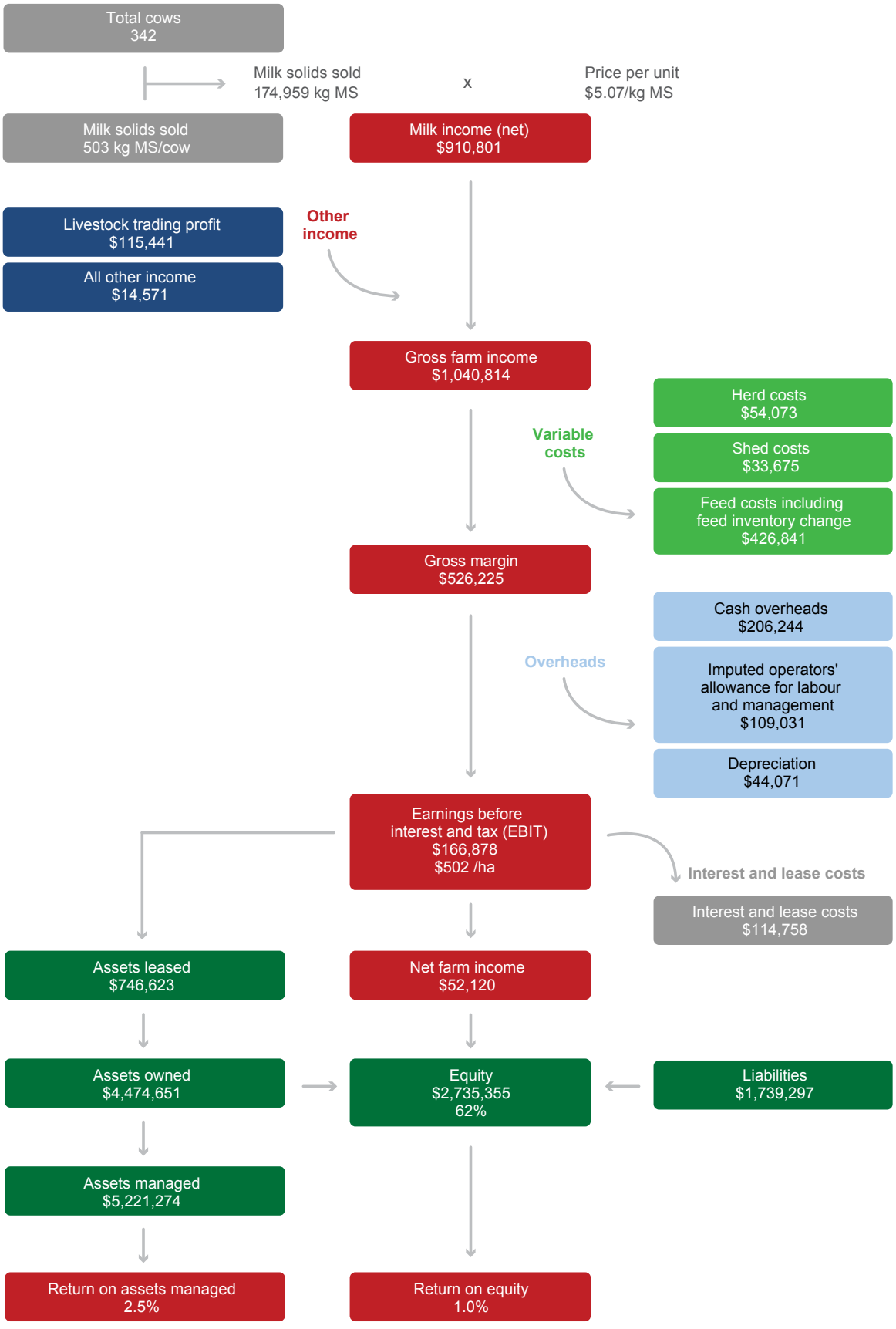
Two commonly used economic indicators of whole farm performance are return on assets and return on equity. They measure the return to their respective capital base.

Return on assets indicates the overall earning of the total farm assets, irrespective of 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. Return on assets is sometimes referred to as return on capital.

Earnings before interest and tax expressed as a return on total assets is the return from farming. There is also a further return to the asset from any increase in the value of the assets over the year, such as land value. If land value goes up 5% over the year, this is added to the return from farming to give total return to the investment. This return to total assets can be compared with the performance of alternative investments with similar risk in the economy. In Figure 1, total assets are visually represented by debt and equity. The debt: equity ratio or equity percent of total capital varies depending on the detail of individual farm business and the situation of the owners, including their attitude towards risk.

Return on equity measures the owner's rate of return on their own capital investment in the business. It is net farm income expressed as a percentage of total equity (one's own capital). The DFMP reports return on equity with and without capital appreciation. This is to distinguish between productivity gains (return on equity without capital appreciation) and capital gains (return on equity with capital appreciation). The return on equity including capital appreciation is reported in Appendix Table 1 for each region.

FIGURE 2. DAIRY FARM MONITOR PROJECT PROFIT MAP - STATE AVERAGE DATA 2016-17[1]



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

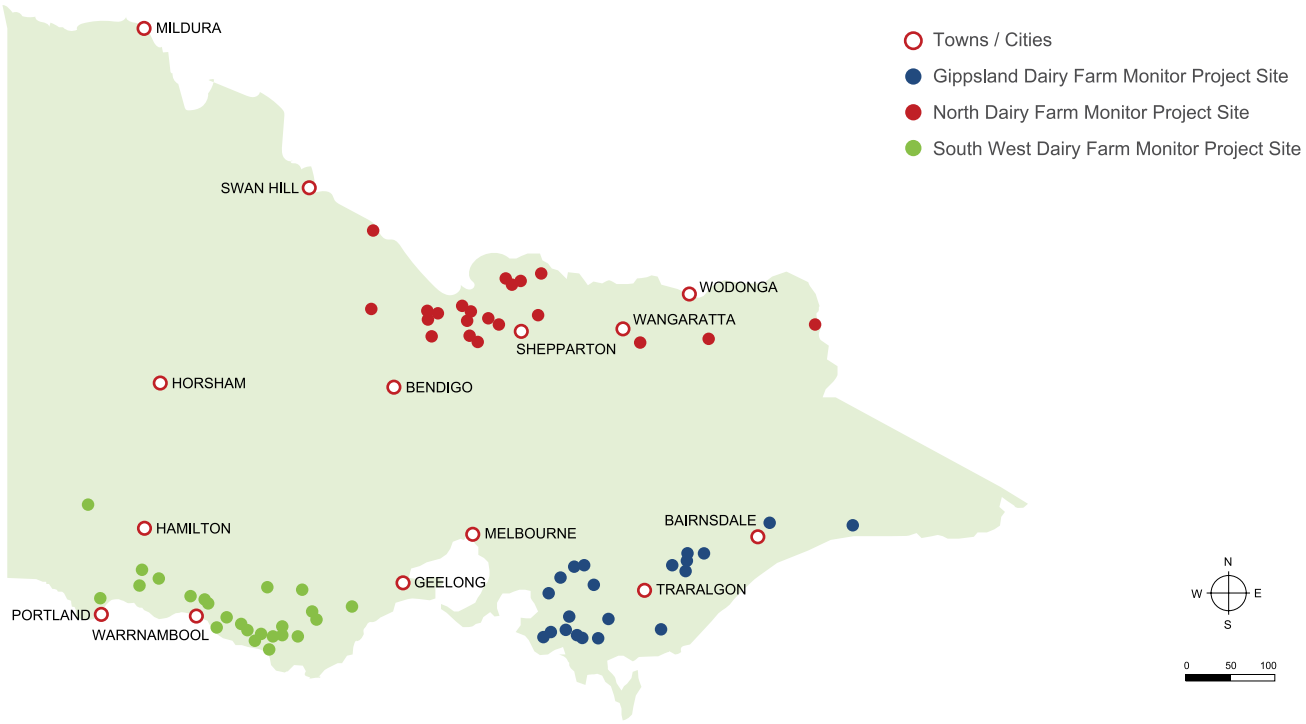
Part One: **Statewide Overview**

Statewide overview

This section of the report 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.

The approximate location of the participating farms is shown in Figure 3.

FIGURE 3. DISTRIBUTION OF PARTICIPANT FARMS IN 2016-17 ACROSS VICTORIA



2016-17 seasonal conditions

The dairying region in the North of the State experienced severe water inundation throughout much of late winter and early spring. As a result, spring sowings were not undertaken and there was a delayed in pasture availability for grazing, during the normally vibrant growing conditions. The southern dairying regions of the South West and Gippsland experienced mild winters with variable climatic conditions throughout summer and autumn.

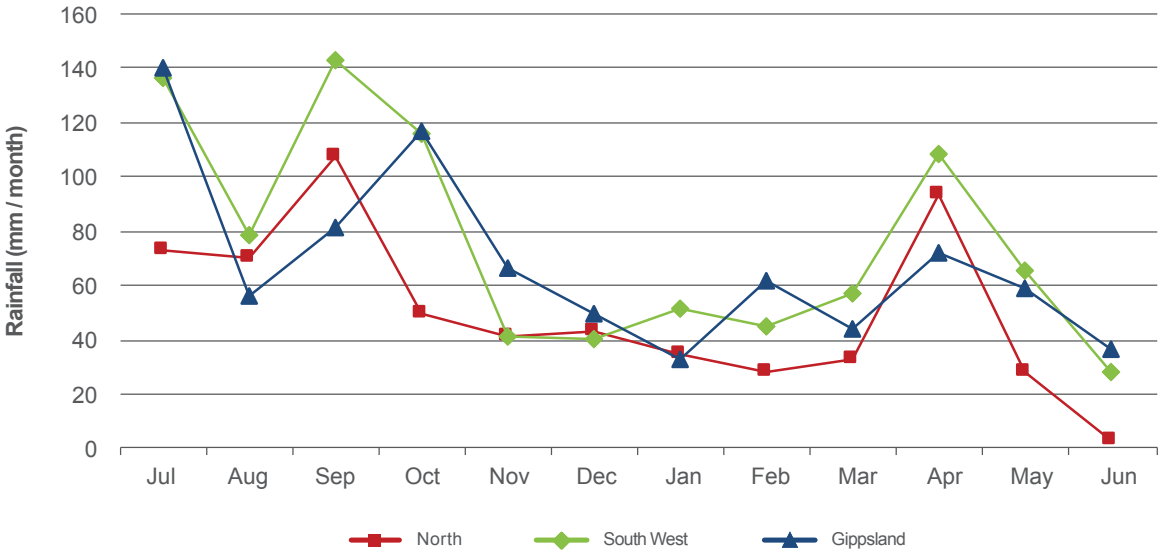
The average monthly rainfall pattern in 2016-17 for each region is shown in Figure 4. The annual rainfall in 2016-17 was 106% of long term average annual rainfall for the State.

The North received 126% of the average long-term rainfall with 607mm, the South West received 913mm of rainfall or 113% of average long term rainfall, while Gippsland was once again drier than the other two regions, only receiving 89% of the long term average rainfall with 819mm.

Farms took advantage wherever possible to replenish long term fodder reserves but regional variation in autumn rain meant some farms fed back the fodder they had just harvested.

The regional sections provide more detail on the 2016-17 seasonal conditions.

FIGURE 4. MONTHLY RAINFALL 2016-17



Whole farm analysis

In 2016-17 the North and South West maintained similar herd sizes but received vastly different rainfall, with the North using irrigation to maintain higher stocking rates. The North and Gippsland had higher milk production per hectare than the statewide average and the South West had higher per cow milk production for 2016-17. Labour efficiency was similar in Gippsland and the North and lower in the South West. No common physical variable determined profitability in any of the regions or the State.

Across the state the average herd size remained relatively unchanged at 342 cows. Average herd size was about the same in Gippsland, but slightly lower in the North and higher in the South West this year.

Average rainfall increased 22% across the state with all three regions receiving much greater rainfall than in 2015-16. The North received 30% more rain leading to extensive water inundation in the spring period. The South West also received 30% more rain than last year and Gippsland received 6% more rain but still lower than the average long term rainfall in that region.

Across the state the average water use (irrigation plus rainfall) was 981mm/ha compared to last year's (irrigation + rainfall) average of 836 mm/ha.

The most notable changes this year was a reduction in stocking rate and milk solids per hectare in the North. The North also reduced labour efficiency this year, more so than the other two regions.

Gippsland received the greatest reduction in milk price across the state in 2016-17 with an 8% lower price compared to 2015-16.

Table 1 presents the average of some farm characteristics for the state and for each region. Further details can be found in the Appendix Table 2 for each region.

TABLE 1. FARM PHYSICAL DATA – STATE OVERVIEW 2016-17

Farm Physical Parameters	Statewide	North	South West	Gippsland
Number of farms in sample	75	25	25	25
Herd size (no. cows milked for at least 3 months)	342	370	368	290
Annual rainfall 16-17	779	607	913	819
Water used (irrigation + rainfall) (mm/ha)	1,017	1,128	969	953
Total usable area (ha)	268	274	326	203
Stocking rate (milking cows per usable hectare)	1.5	1.7	1.1	1.7
Milk sold (kg MS/cow)	503	499	525	486
Milk sold (kg MS/ha)	748	827	595	823
Milk price received ($/kg MS)	$5.07	$5.13	$5.25	$4.84
People productivity (milkers / FTE)	105	109	98	109
People productivity (kg MS / FTE)	52,500	53,051	51,480	52,969

Gross farm income

Gross farm income includes all farm income from milk sales, change in inventories of livestock, or cash income from livestock trading. Income from sources such as milk share dividends are included as other farm income.

Across the state, income from sources other than milk accounted for 13% of gross farm income, increasing from 9% the previous few years. This is especially important this year due to feed inventory change not being considered in the gross farm income calculation. Feed inventory change in 2016-17 is included as a variable feed cost.

The lower milk price received led to the reduction in contribution of milk income to the gross farm income. Milk income was supplemented predominantly with good livestock trading conditions. Animals of good export quality were offered for sale at moderately high market prices, improving the gross farm income levels for many farms.

The average milk price for all participants was $5.07/kg MS, a 6% decline from the previous year. In real terms (when inflation is taken into account) the milk price received was the lowest received in the 11-year history of the Dairy Farm Monitor Project.

Variable costs

Variable costs are those directly associated with production, and include costs such as animal health, contract services, supplementary feeding, agistment, pasture costs and feed inventory change. Table 2 shows the largest cost was purchased feed and agistment at $1.55/kg MS for the state average, a considerable 28% reduction on the previous year and was one of the main factors leading to reduced variable costs in all regions this year, driven by a greater production and consumption of home grown feed.

Total feed costs, including home grown feed, purchased feed and agistment and feed inventory change, accounted for between 44% and 52% of total costs (variable plus overhead) on average across the regions. 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 $2.91/kg MS, a $0.63/kg MS (28%) increase from 2015-16 with the top 25% reporting a gross margin of $3.54/kg MS compared to last year when they received an average gross margin of $3.00/kg MS.

Overhead costs

Overhead costs or 'fixed costs' are relatively unresponsive to small changes in the scale of operation of a business. Overhead costs include categories such as depreciation, administration, repairs and maintenance and labour. Imputed labour cost is an estimate of the cost of the time spent in the business by people with a share in the business such as the owner, the owner's family, or a sharefarmer who owns assets in the business. The imputed labour rate is calculated as $28 per hour. Further information on imputed labour can be found in Appendix E.

Average overhead costs increased this year to $2.16/kg MS from $2.10/kg MS last year. Despite large reductions in depreciation and other cash overheads there was a large increase in the cost of employed and imputed labour. Overhead costs on repairs and maintenance increased in the North and South West and reduced in Gippsland. Employed and imputed labour costs increased across the state.

Table 2 shows that in 2016-17 the North had much higher average variable costs on a per kilogram of milk solids basis compared to the other two regions.

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)	$5.07	$5.13	$5.25	$4.84
Livestock trading profit	$0.63	$0.63	$0.68	$0.57
Other farm income	$0.10	$0.16	$0.05	$0.10
Total income	**$5.80**	**$5.92**	**$5.98**	**$5.50**
VARIABLE COSTS				
Herd cost	$0.29	$0.34	$0.25	$0.27
Shed cost	$0.20	$0.20	$0.20	$0.20
Home grown feed cost	$1.01	$1.28	$0.90	$0.86
Purchased feed and agistment	$1.55	$1.76	$1.50	$1.38
Feed inventory change	-$0.15	-$0.18	-$0.26	-$0.03
Total variable costs	**$2.89**	**$3.41**	**$2.59**	**$2.68**
GROSS MARGIN				
per kilogram of milk solids	**$2.91**	**$2.51**	**$3.39**	**$2.83**
OVERHEAD COSTS				
Repairs and maintenance	$0.31	$0.35	$0.33	$0.25
Employed labour	$0.52	$0.53	$0.51	$0.52
All other overheads	$0.26	$0.25	$0.27	$0.26
Imputed labour	$0.82	$0.78	$0.83	$0.86
Depreciation	$0.24	$0.23	$0.29	$0.20
Total overhead costs	**$2.16**	**$2.14**	**$2.23**	**$2.10**
EARNINGS BEFORE INTEREST AND TAX				
per kilogram of milk solids	**$0.75**	**$0.37**	**$1.16**	**$0.73**

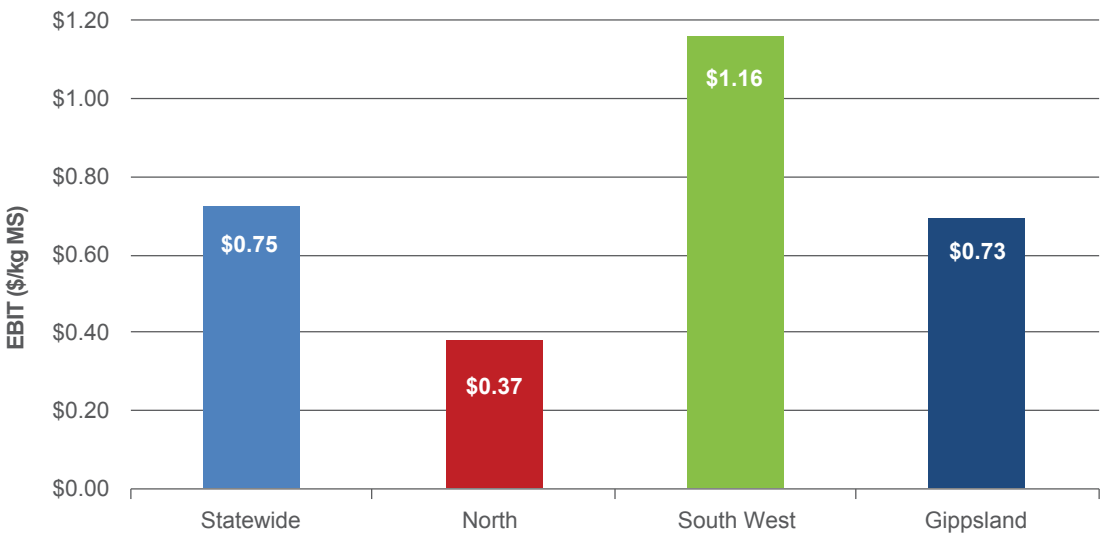
Earnings before interest and tax

Earnings before interest and tax (EBIT) is calculated by using the gross farm income, less variable costs and overhead costs including non-cash costs. As EBIT excludes tax, interest and lease costs, it can be used to analyse the operational efficiency of the whole farm business.

Average EBIT was higher across the state this year with an average of $0.75/kg MS, a threefold increase from $0.18/kg MS in 2015-16. The increase in EBIT occurred across all regions. The statewide improvement in earnings was also reflected in the three regions with an increase in the North on average from $0.03/kg MS to $0.37/kg MS this year; from $0.18/kg MS to $1.16/kg MS this year in the South West, and more than double in Gippsland, from $0.33/kg MS to $0.73/kg MS this year in Gippsland.

Figures 17, 28 and 39 in the regional sections present the EBIT of sample farms this year alongside the respective current and previous year's regional average.

FIGURE 5. AVERAGE EARNINGS BEFORE INTEREST AND TAX PER KILOGRAM OF MILK SOLIDS SOLD



Return on assets and equity

Return on assets is the EBIT expressed as a percentage of total farm assets under management and hence is an indicator of the earning power of total assets, irrespective of capital structure. Similarly, it can be considered as an indicator of the overall efficiency of use of the resources that are involved in a given production system and not elsewhere in the economy.

The average return on assets for participants across the state was 2.5%, an improvement from 0.6% last year. The range in return on assets was from negative 8.9% to 11.2%, an even greater range than last year. Despite lower incomes but with great efforts to reduce operating costs, and a better pasture growing season compared to the previous year, 89% of the participant farms recorded positive return on assets (67 of the 75 farms). Figure 6 shows the majority of farms had a return on assets between 0% and 5%.

Return on equity is the net farm income (earnings before interest and tax less interest and lease charges) expressed as a percentage of owner's equity. Items not accounted for in net farm income are capital expenditure, principal loan repayments and tax. Return on equity is a measure of the owners' rate of return on their investment.

The average return on equity for the 75 farms was 1.0% compared with negative 3.2% in 2015-16, 5.2% in 2014-15 and 11.6% in 2013-14.

The median return on equity was 1.1% with a range from negative 20.0% to 22.2% with a relatively uniform distribution (Figure 7). Unlike previous years the highest return on equity for the state was recorded in the South West and the lowest return on equity was recorded in the North.

Further discussion of return on assets and return on equity occur in the risk section below and later in the regional chapters. Appendix Table 1 presents all the return on assets and return on equity for the participant farms for each region.

FIGURE 6. DISTRIBUTION OF FARMS BY RETURN ON ASSETS

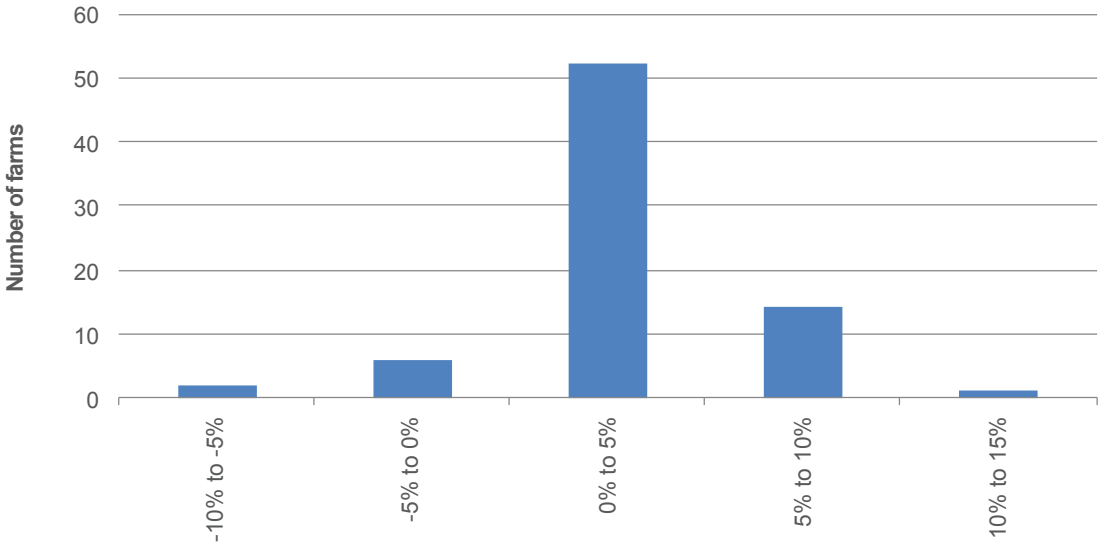
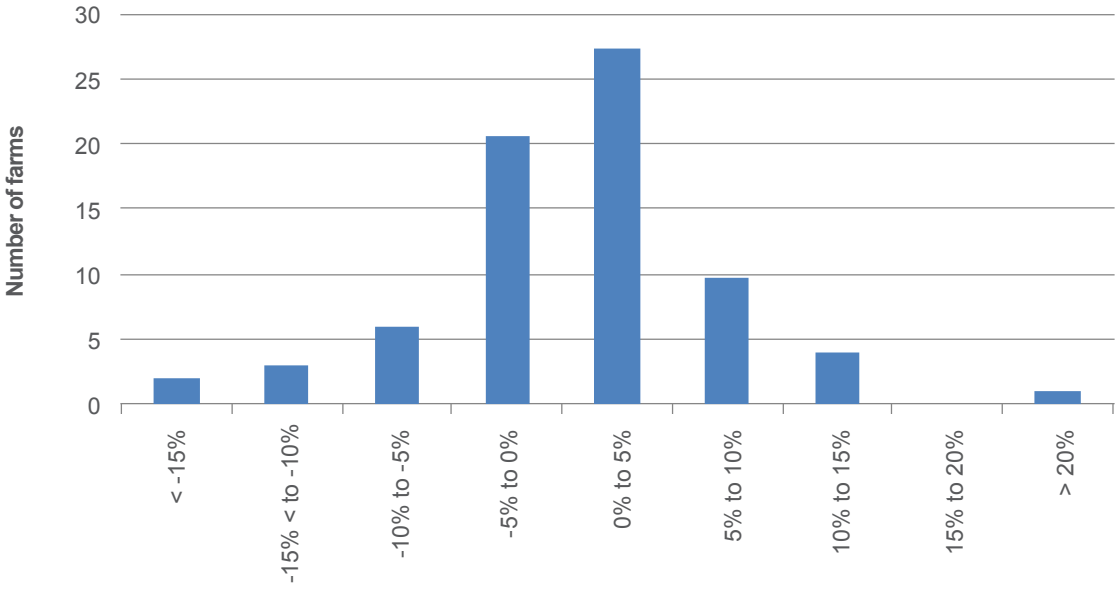


FIGURE 7. DISTRIBUTION OF FARMS BY RETURN ON EQUITY



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	57%	61%	54%	56%
Debt service ratio (percentage of income as finance costs)	11%	10%	10%	12%
Debt per cow	$4,771	$4,539	$4,909	$4,864
Equity percentage (ownership of total assets managed)	62%	61%	64%	61%
Percentage of feed imported (as a % of total ME)	35%	42%	33%	30%

All farm 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. Thus 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. It then holds that in regions where risk is higher, less risk is taken. 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 indictors, 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, $0.57 was used to cover variable costs, a sizable reduction from last year, 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 11% this year is similar to 10% noted last year. It indicates that on average farms repaid $0.11 of every dollar of gross farm income to their creditors.

Equity levels across the state decreased this year, with a state average of 62% reported in 2016-17 compared to 66% the previous year. Unlike last year, the equity levels are varied between the regions in 2015-16, with the North and Gippsland equity levels reducing the most. Caution should be exercised when comparing equity between years as the farm sample changes.

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 2016-17, 18 of the 75 (24%) participant farms received a return on equity greater than their return on assets. Last year only nine of the 75 (12%) participant farms achieved this.

This year, all farms in the Dairy Farm Monitor project sourced at least some of their metabolisable energy (ME) from imported feeds and are therefore somewhat exposed to fluctuations in prices and supply in the market for feed. In 2016-17 improved growing conditions for pasture and fodder crops enabled farms on average to reduce their proportion of diet from imported feed compared to 2015-16, resulting in reduced purchased feed costs and the ability to reduce variable costs on farm.

[2]Malcolm, 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 8. This includes feed consumed by dry cows and young stock.

A cow's diet can consist of grazed pasture, harvested forage, crops, concentrates and other imported feeds.

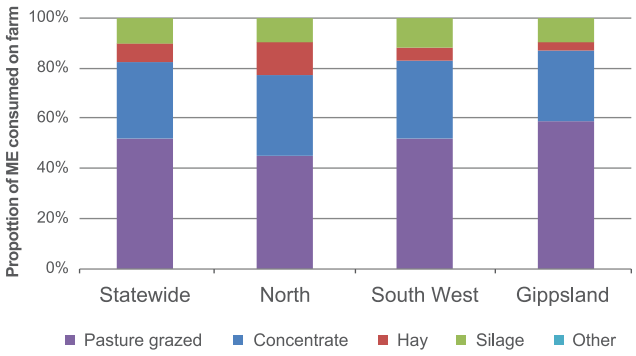
While grazed pasture made up the largest source of ME in the cow's diet across all regions, Gippsland had the greatest consumption of direct grazed pasture at 59%. Gippsland farms also had a lower reliance on fodder (hay and silage) and the lowest reliance of 28% of their ME coming from concentres.

The North sourced the lowest amount of ME (45%) from direct grazed pasture, similar to 43% last year, compared to the other regions. Farms in this region had the greatest reliance on concentrates (32%) of all the regions, and had the greatest reliance on hay (either conserved or purchased).

The South West increased its direct grazed pasture to 52% of ME consumed improving from 40% last year; returning to levels seen in 2014-15 of 51%. Reliance on hay and silage decreased with an improvement in seasonal conditions with and concentrates reducing 4 percentage points to 31% of ME requirements.

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

FIGURE 8. SOURCES OF WHOLE FARM METABOLISABLE ENERGY



The average estimated home grown feed consumed per milking hectare is shown in Figure 9. Both Figures 8 and 9 were estimated using the pasture consumption calculator in DairyBase which is reasonably similar but not directly comparable to figures published in previous years using the DEDJTR Pasture Consumption Calculator.

This involves a calculation based on the total ME required on the farm, determined by stock numbers on the farm, liveweight, average distance stock walk to and from the dairy and milk production. Metabolisable energy imported from other feed sources is subtracted from the total farm ME requirements over the year to estimate the 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 2016-17 was 8.1 t DM/ha, up from 7.0 t DM/ha, recorded on average for the state in 2015-16. The higher pasture consumption in 2016-17 reflects the improvement in pasture growth and harvesting conditions experienced across the state.

The North directly grazed 6.8 t DM/ha and conserved 0.7 t DM/ha compared with 7.1 and 1.1 t DM/ha last year, respectively. The decline in pasture consumption was mainly due to the extremely wet conditions and water inundation experienced in some areas in spring 2016.

The South West consumed an average of 7.0 t DM/ha where 4.8 t DM/ha was directly grazed and 2.2 t DM/ha was conserved as either hay or silage. This was a vast improvement on the previous year when only 3.4 t DM/ha was direct grazed pasture and 1.1 t DM/ha conserved last year, reflecting the more favourable growing conditions.

In 2016-17 Gippsland participants on average consumed 7.8 t DM/ha of direct grazed pasture, an improvement from last year's 6.9 t DM/ha. Gippsland participants on average increased their fodder conservation by harvesting 1.4 t DM/ha via this method in comparison to 1.0 t DM/ha in 2015-16.

Figure 9 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.

FIGURE 9. ESTIMATED TONNES OF HOME GROWN FEED CONSUMED PER MILKING HECTARE

Fertiliser application

Application of nutrients was varied this year depending on the nutrient type – see Figure 10. On average 15% more nitrogen was used (on a kilogram per hectare basis) but there was little change in the amount of phosphorus, however regional variation was observed. There was 16% less potassium and 19% more sulphur applied this year on average but there was regional variation.

The North applied a lot more nitrogen this year on average with 105 kg/ha, compared to 80 kg/ha last year. Phosphorous application increased 4 kg/ha to 18 kg/ha, potassium application decreased to 12 kg/ha and sulphur increased to 31 kg/ha. This compares with last year's average of 80, 14, 15 and 20 kg/ha, respectively.

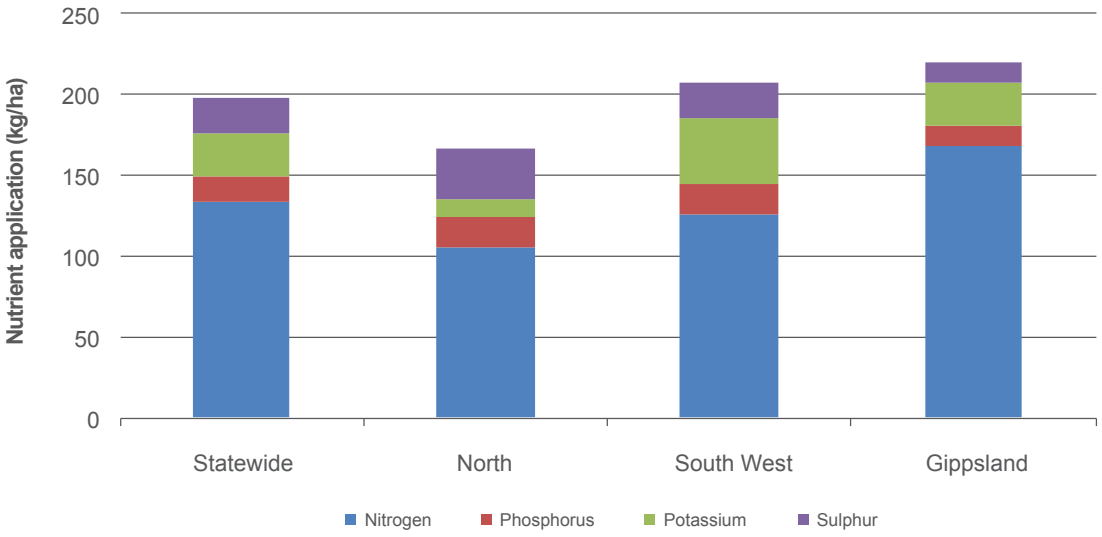
The South West farms on average increased its use of macronutrients compared to the previous year. Nitrogen was applied at 126 kg/ha, phosphorous at 20 kg/ha, potassium had no change at 39 kg/ha and sulphur at 23 kg/ha. This compared to the 2015-16 use of nitrogen at 102 kg/ha, phosphorus at 13 kg/ha, potassium 39 kg/ha and sulphur at 14 kg/ha.

Gippsland farms on average applied the most nitrogen of all three regions, applying 168 kg/ha, 26% more than the state average. Phosphorous applications were reduced to 12 kg/ha, while potassium levels were applied at about the state average at 27 kg/ha. Gippsland was the lowest user of sulphur this year with only 13 kg/ha applied per usable hectare, at a bit over half the state average usage.

It should be noted that water availability, pasture species, soil type, pasture management, seasonal variation in response rates to fertilisers, 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 10. NUTRIENT APPLICATION PER HECTARE



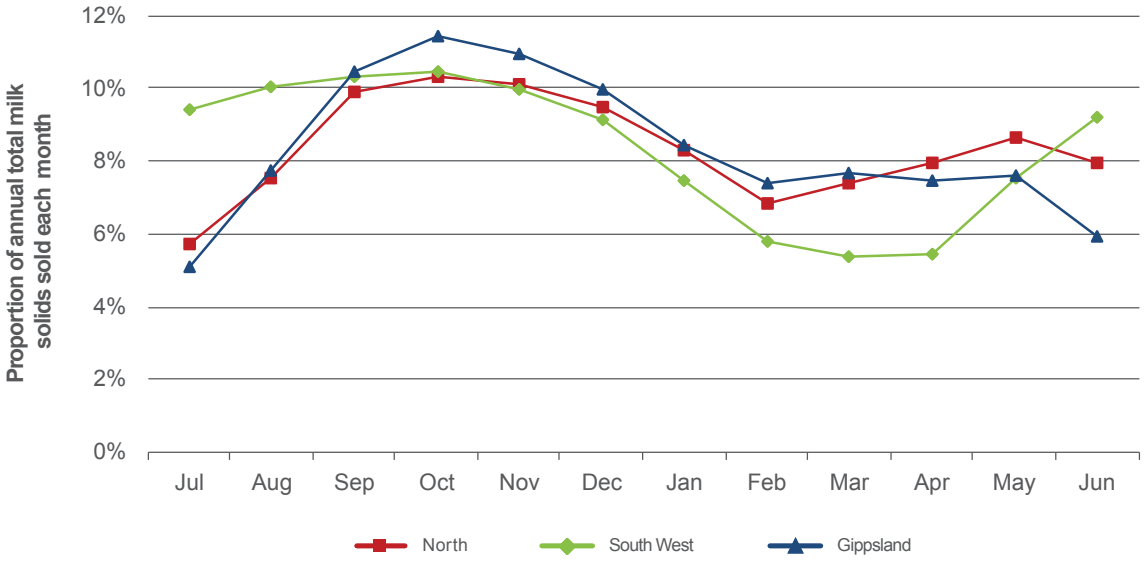
Milk production

Spring provided the main production peak in all regions across the state (Figure 11).

Similar to last year, the North had another small peak in mid-autumn in 2016-17 while the South West had a drop in early autumn before increasing in June 2017. It appears that calving pattern in the South West has changed somewhat this year.

It is difficult to determine if this is a long term change or driven by seasonality, or economics of production. The majority of Gippsland milk is produced in spring with 32% of milk production sold between September and November, a small reduction in spring milk in this region this year.

FIGURE 11. MONTHLY DISTRIBUTION OF MILK PRODUCTION



Calving pattern

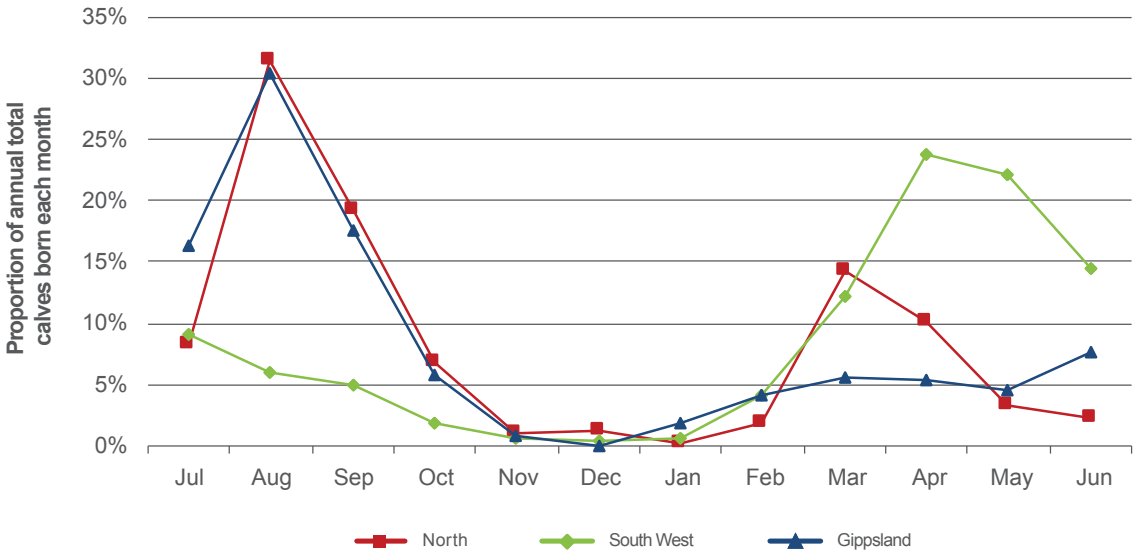
Typically, calving pattern follows a similar trend to the milk production curve, with milk production peaks occurring two or so months after the calving peak. This can be seen for all regions in Figures 11 and 12.

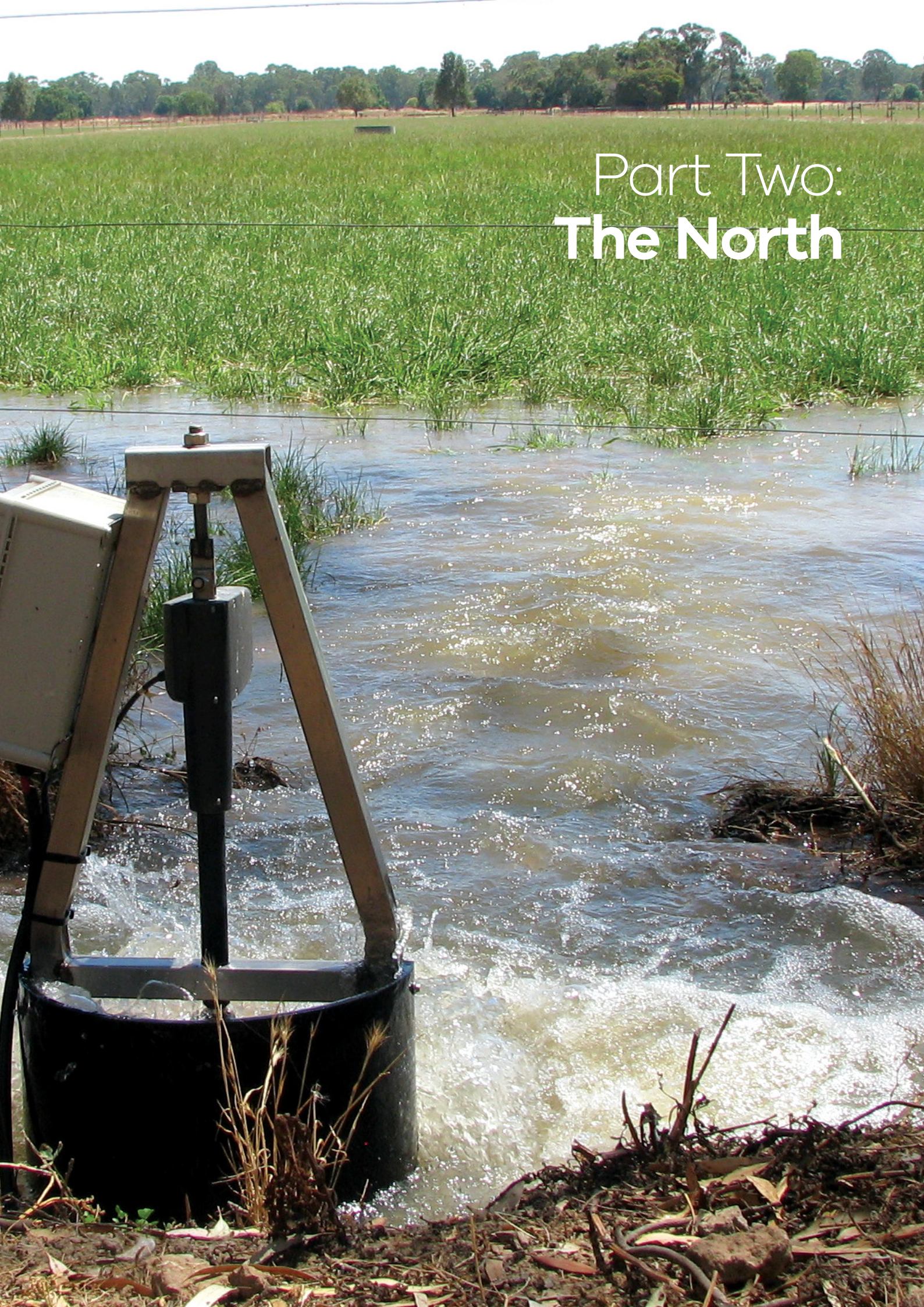
Both the North (red line) and Gippsland (blue line) had strong late winter/early spring calving. However, autumn calving is more common in the North than in Gippsland showing a discernible second small peak.

The larger calving peak in August and smaller peak occurring in March are followed approximately two months later by a peak in milk production for those regions.

The South West, shown by the green line, has a dominant autumn calving peak with nearly 60% of calvings taking place between March and May in 2017. This calving pattern is followed closely two to three months later with an extended peak milk production from June 2017.

FIGURE 12. MONTHLY DISTRIBUTION OF CALVING





Part Two:
The North

The North

Farms NO0065, NO0066, NO0067 and NO0068 were new to the Dairy Farm Monitor Project this year.

An uncertain milk price, a wet start to the season and a drop in milk production provided challenging operating conditions for Northern Victorian farmers. While the higher than average rainfall at the start of the 2016-17 season provided relief to the temporary water market, there were adverse effects on milk and pasture production.

Above average rainfall throughout the season and mild growing conditions had a positive impact on water storage resulting in lower water prices. The temporary water price eased with both the Murray and Goulburn irrigation systems having 100% high reliability water share allocation by October. Some irrigation districts also received allocation for low reliability water shares. The temporary irrigation water price dramatically decreased from an average of $236/ML in 2015-16 to $65/ML this year. The later start to irrigation and cheaper water reduced costs over the summer and autumn period.

The 2016-17 annual rainfall was 30% higher than the long-term average of 482mm. However, farms in the North struggled with the wet winter. Waterlogged paddocks reduced hay and silage quality and quantity, constant wet conditions degraded farm tracks and left farmers with nowhere dry to put cows. Farmers reported animal health issues resulting to a rise in herd costs by 16% to $0.34/kg MS. There was also a 73% increase in livestock death, mainly calves and heifers.

Grain and fodder prices were generally favourable and there was a reasonable young herd coming in for the 2017-18 season.

The challenging seasonal condition resulted in lower home grown pasture (grazed and conserved) than in 2015-16.

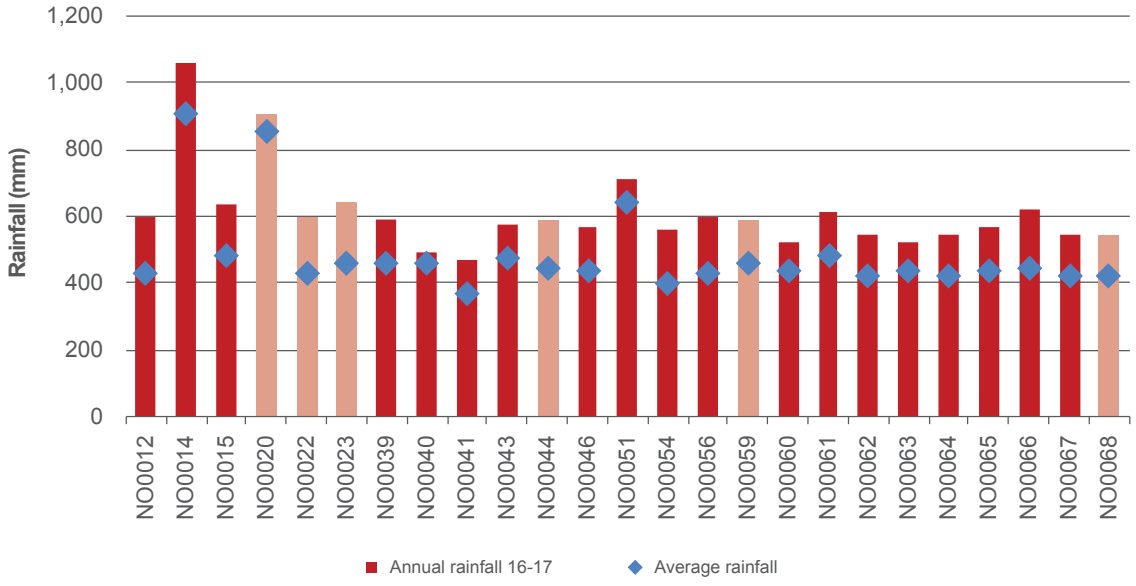
The warmer start to March led farmers to sow pastures earlier than usual and the favourable water prices and timely rainfall in April resulted in good pasture establishment. However, there was no follow up rain, and May and June were only 64% and 6% of the long-term average, respectively.

Total milk production per farm (litres) among the North participants decreased by 5% compared to the previous year. Production losses were notable in October, January and February compared to same period last year. Some participant farms experienced lower production (up to 20%) than in 2015-16 between October and December. Many farmers were able to improve their cash flow position by culling cows at higher saleyard prices and rearing bull calves.

The main concern by participant farmers in 2016-17 was the continued lower average milk price. Milk price fell from $6.09/kg MS in 2014-15 to $5.46/kg MS in 2015-16 then $5.13/kg MS this year. The participant farms in the North also had the greatest spread of milk price of all the regions, with a range of $4.42/kg MS to $6.11/kg MS.

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

FIGURE 13. 2016-17 ANNUAL RAINFALL AND LONG TERM AVERAGE RAINFALL – NORTH



Whole Farm Analysis

In 2016-17, Northern Victorian farms were characterised on average by a usable area of between 117 and 342 hectares, milk production of between 442 and 551 kg MS/cow and a herd diet that home grown feed provided between 45% and 68% of metabolisable energy (ME).

The average usable area of all participant farms was 39 ha less than the top 25% (ranked by return on assets). The regional average milk solids sold per cow and per hectare were higher than the top performers.

The top 25% were more efficient in their use of labour both in number of milking cows/FTE and kg MS/FTE than the majority of farms (Q1 to Q3 range). The top 25% total water use was slightly lower than the regional average but home grown feed made up a greater proportion of total metabolisable energy consumed.

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 for each parameter sit.

TABLE 4. FARM PHYSICAL DATA – NORTH

Farm Physical Parameters	North average	Q1 to Q3 range	Top 25% average
Annual rainfall 16-17	607	545 - 612	645
Water used (irrigation + rainfall) (mm/ha)	1,128	910 - 1,179	1,093
Total usable area (hectares)	274	117 - 342	313
Milking cows per usable hectare	1.7	1.1 - 2.1	1.4
Milk sold (kg MS /cow)	499	442 - 551	490
Milk sold (kg MS /ha)	827	579 - 969	663
Home grown feed as % of ME consumed	58%	45% - 68%	63%
Labour efficiency (milking cows / FTE)	109	82 - 122	134
Labour efficiency (kg MS / FTE)	53,051	41,274 - 66,349	63,020

Gross farm income

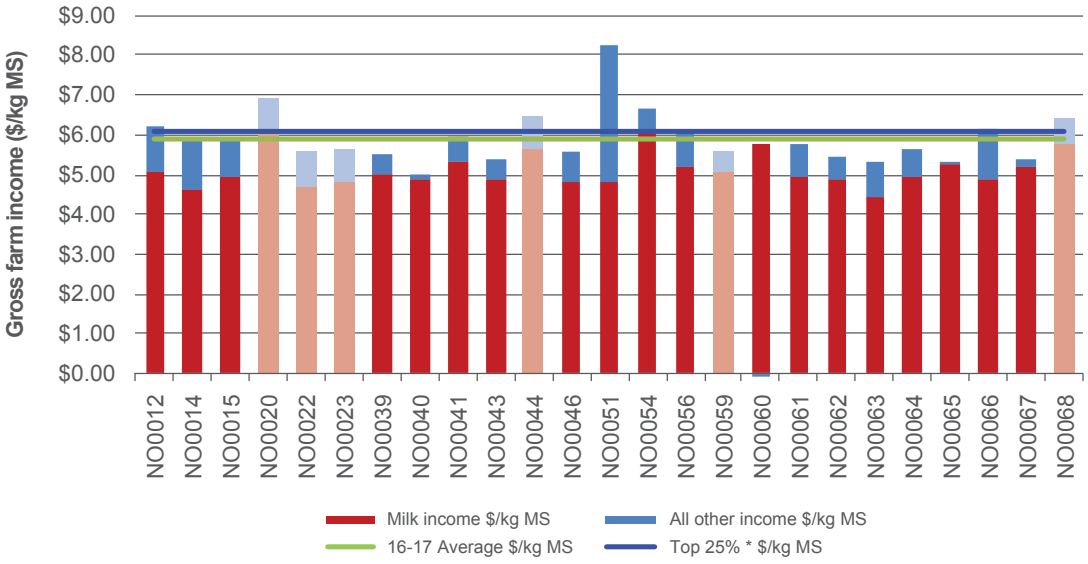
Gross farm income includes all farm income relating to the dairy farm business, whether from milk sales, a change in stock inventories, cash income from livestock trading or any other dairy related income. In 2016-17 gross farm income does not include feed inventory change, as it has in previous years. Feed inventory change and if applicable, change in the value of carry-over water are included as feed costs.

The average gross farm income of $5.92/kg MS included milk income ($5.13/kg MS) plus all other income associated with the dairy business operation ($0.79/kg MS).

Figure 14 shows the range of average gross farm income of between $5.01/kg MS and $8.31/kg MS. Farmers took advantage of favourable livestock prices resulting in increased livestock trading profit of $0.63/kg MS compared to $0.58 /kg MS in 2015-16.

The milk price received was 6% lower than in 2015-16, 16% lower than in 2014-15 and a 25% lower than in 2013-14.

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



Milk solids sold

Average milk solids sold per usable hectare decreased by 17% this year to 827 kg MS/ha. The range was between 246 kg MS/ha and 1,604 kg MS/ha (Figure 15), much lower than the range in 2015-16 (439 to 2,121 kg MS/ha) and in 2014-15 (475 to 2,284 kg MS). The average milk solids sold per cow also decreased by 5% to 499 kg MS/cow in 2016-17.

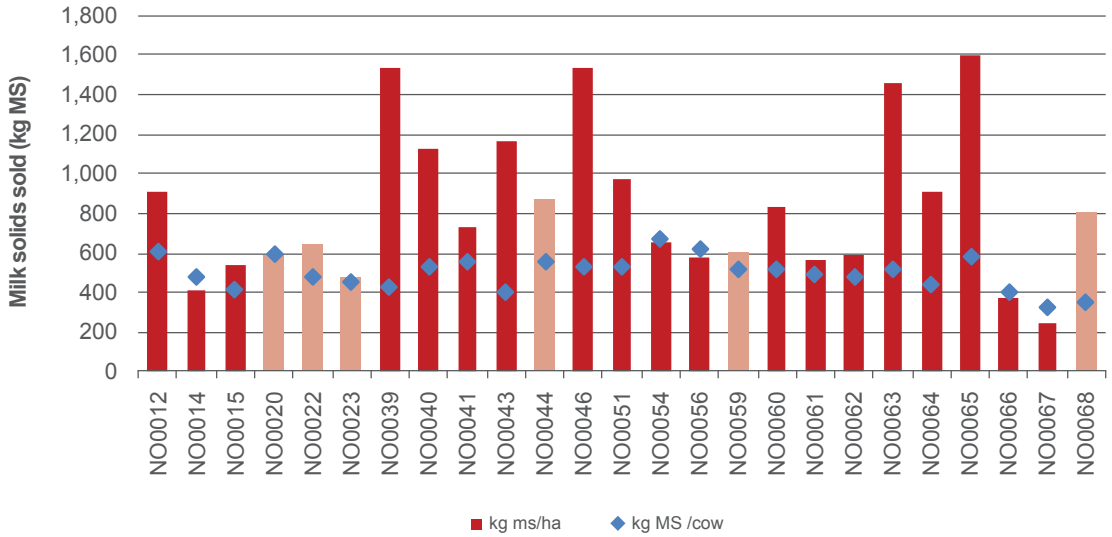
The average of the top 25% decreased by 40%, from 1,096 kg MS/ha to 663 kg MS/ha. Two farms that were top performers this year and last year recorded 19% and 32% lower total milk production (in litres) this year.

There was a wide range in milk solids sold (from 246 kg MS/ha to 1,604 kg MS/ha) with only two farms in the top 25% selling more milk solids per hectare than the average. The below average milk solids per hectare and per cow in the top performing group suggests that these farms have other attributes that contribute to their strong performance.

Figure 15 also shows the variation in production systems. Some farmers focussed on maximising production per cow and others aimed at producing more milk solids per hectare.

Many participant farmers reported lower farm production in the first four months of the season. The average milk solids sold per farm in July 2016 was 8% lower than in July 2015. Although the total milk solids sold per farm picked up in August and September, it was still lower than same period last year. The total milk solids sold per farm was 12% lower in October, January and February compared to the same months in 2015-16 season.

FIGURE 15. MILK SOLIDS SOLD – NORTH



Variable costs

Variable costs include herd, shed and feed costs (shown as the blue bars in Figure 16). Feed inventory change and if applicable, change in the value of carry-over water are considered as feed costs this year.

On average, variable costs were $3.41/kg MS with a range from $1.72 /kg MS (NO0067) to $4.88/kg MS (NO0051) for farms in the North. Herd and shed costs slightly changed to $0.34/kg MS and $0.20/kg MS from $0.30/kg MS and $0.18/kg MS in 2015-16, respectively.

Feed costs were the most significant variable cost items, accounting for 84% of the average variable cost in 2016-17. The average feed cost was $2.87/kg MS, with a range between $1.60/kg MS and $4.10/kg MS.

Irrigation costs decreased 36%, from $0.67/kg MS in 2015-16 to $0.43/kg MS. Higher than long-term average rainfall and irrigation water allocation reached 100% by October and had resulted in lower temporary water prices.

The cost of home grown feed was $1.00/kg MS in 2016-17 with a range from $0.70/kg MS to $2.20/kg MS. The average cost of purchased feed and agistment increased from $1.34/kg MS in 2015-16 to $1.76//kg MS this year.

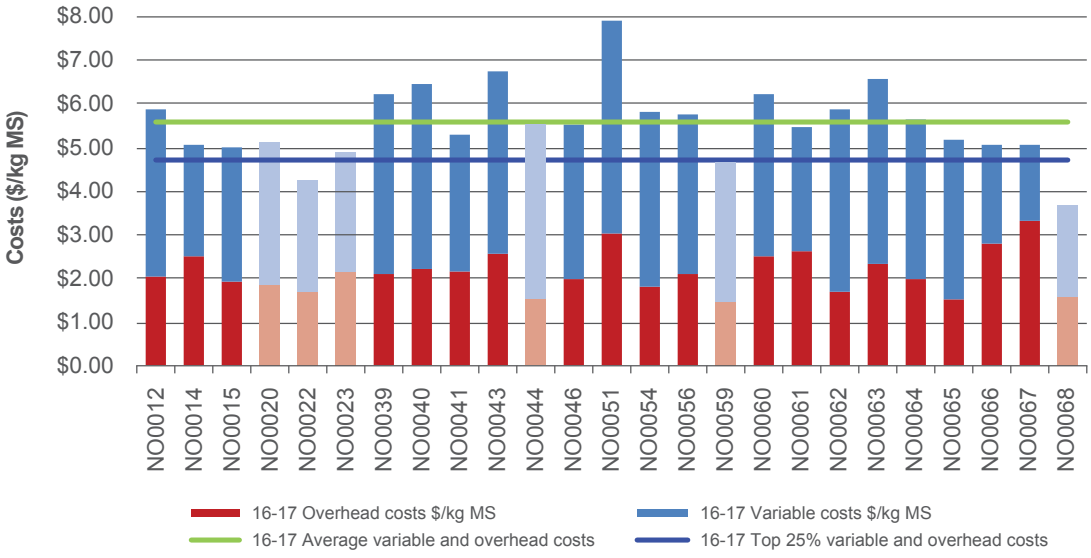
Overhead costs

Overhead costs are those that do not vary with the level of production. The DFMP includes cash overheads such as rates and insurance as well as non-cash costs such as imputed owner-operator labour, family labour and depreciation of plant and equipment. Average overhead costs this year ranged from $1.46/kg MS to $3.34/kg MS (shown as red bars in Figure 16).

The average overhead costs for 2016-17 were $2.14/kg MS, up from $1.89/kg MS last year, due to increases in labour costs and repairs and maintenance. Repairs and maintenance increased by 21% and imputed labour also rose by 18% from $0.29/kg MS and $0.66/kg MS in 2015-16, respectively. There was a modest increase (9%) in the average cost of employed labour this year. For the top 25%, there was no change in repairs and maintenance; 9% increase in employed labour and 3% increase in imputed labour.

Employed (25%) and imputed (26%) labour costs accounted for more than half of the overhead costs. The average total labour units was 3.5 full time equivalents (FTE), with owner operator contributing 1.6 FTE/farm and employed labour 1.9 FTE/farm. This ratio was similar to last year's 1.5 FTE/farm and 1.8 FTE/farm, respectively.

FIGURE 16. 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 5 shows that the top performing group had a 22% lower average cost of production with inventory changes. Their costs were generally lower than the average of all participant farms, except in employed labour. The difference in the changes to their feed and livestock inventories between the average and top 25% was also notable.

Average irrigation costs decreased 36%, from $0.67/kg MS to $0.43/kg MS, on the back of lower temporary water prices.

The cost of home grown feed was $1.00/kg MS in 2016-17 with a range from $0.70/kg MS to $2.20/kg MS.

The cost of purchased feed and agistment increased from $1.34/kg MS in 2015-16 to $1.76/kg MS this year.

TABLE 5. COST OF PRODUCTION – NORTH

Farm costs	North average	Q1 to Q3 range	Top 25% average
VARIABLE COSTS			
Herd costs	$0.34	$0.29 - $0.39	$0.31
Shed costs	$0.20	$0.16 - $0.24	$0.16
Purchased feed and agistment	$1.76	$1.29 - $2.22	$1.56
Home grown feed cost	$1.29	$1.00 - $1.50	$1.14
Total variable costs	**$3.60**	**$3.35 - $3.95**	**$3.17**
OVERHEAD COSTS			
Employed labour	$0.53	$0.37 - $0.64	$0.55
Repairs and maintenance	$0.35	$0.29 - $0.40	$0.27
All other cash overheads	$0.25	$0.17 - $0.26	$0.20
Total cash overheads	**$1.13**	**$0.93 - $1.31**	**$1.01**
Cash cost of production	$4.74	$4.37 - $5.04	$4.18
Depreciation	$0.23	$0.12 - $0.31	$0.14
Imputed labour	$0.78	$0.53 - $1.10	$0.56
Non-cash overheads	**$1.01**	**$0.66 - $1.34**	**$0.71**
Cost of production without inventory change	$5.74	$5.55 - $6.25	$4.89
INVENTORY CHANGE			
+/- feed inventory changes	- $0.18	- $0.37 - $0.06	- $0.20
+/- livestock inventory changes - purchases	$0.19	- $0.20 - $0.46	- $0.20
Cost of production with inventory change	$5.75	$5.16 - $6.68	$4.49

Earnings before interest and tax

Earnings before interest and tax (EBIT) is gross farm income less variable and overhead costs.

The average EBIT improved from $0.03/kg MS last year to $0.37/kg MS this year, however still much lower than in 2014-15 ($1.10/kg MS).

The range in EBIT was narrower than in 2015-16, with a spread of negative $1.43/kg MS to $2.27/kg MS compared to last year's negative $2.40/kg MS up to $2.03/kg MS (Figure 17).

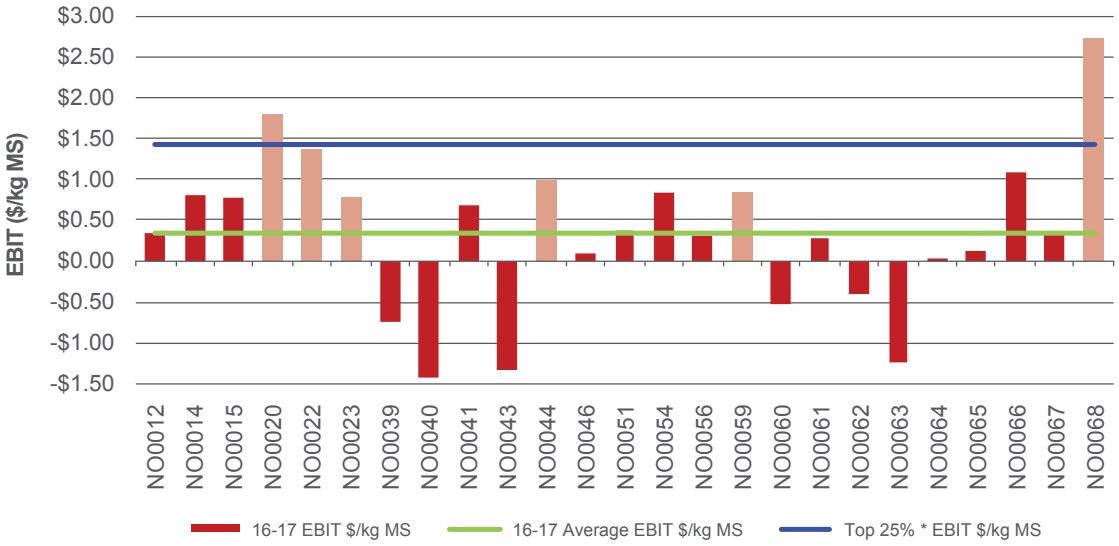
Nineteen of the 25 farms recorded a positive EBIT, compared to 14 farms in 2015-16 and 23 farms in 2014-15.

The EBIT of the top 25% was three times higher than the regional average due to a lower cost of production (22%) and slightly higher milk income (3%).

The management ability of farmers is also a crucial contributing factor to strong performance which is not presented in this 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.

The top 25% performers recorded an average EBIT of $1.42/kg MS, highlighting the strength of well run businesses in the region. The data also demonstrate that having a high EBIT does not necessarily translate into a high return on assets as seen when comparing Figures 18 and 19.

FIGURE 17. WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER KILOGRAM OF MILK SOLIDS – NORTH



Return on assets and equity

Return on assets (RoA) is the EBIT expressed as a percentage of total assets under management. It is an indicator of the overall earning power of total assets, irrespective of capital structure. Figures 18 and 19 present RoA and return on equity (RoE) excluding capital appreciation.

Average RoA of participant farms in the North was 1.0%, which was higher than negative 0.1% recorded last year and significantly lower than 6.1% in 2014-15.

The average of the top performing group was 5.2%, which was higher than 4.6% recorded in 2015-16 and lower than 12.1% recorded in 2014-15.

RoE is calculated as net farm income expressed as a percentage of owner equity. It is a measure of the owner's rate of return on investment.

The last two years have resulted in negative average return on equity in the North. There was a slight recovery this year with an average of negative 2.0%, up from negative 4.4% in 2015-16.

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 6.0% (Figure 19).

Of the 25 Northern Victorian farms, 76% recorded a positive RoA but only 40% achieved a positive RoE. Three farms this year had RoE higher than their RoA compared to two farms last year. This shows the majority of participant farmers received lower returns from the additional assets than the interest and/or lease rate.

FIGURE 18. RETURN ON ASSETS – NORTH

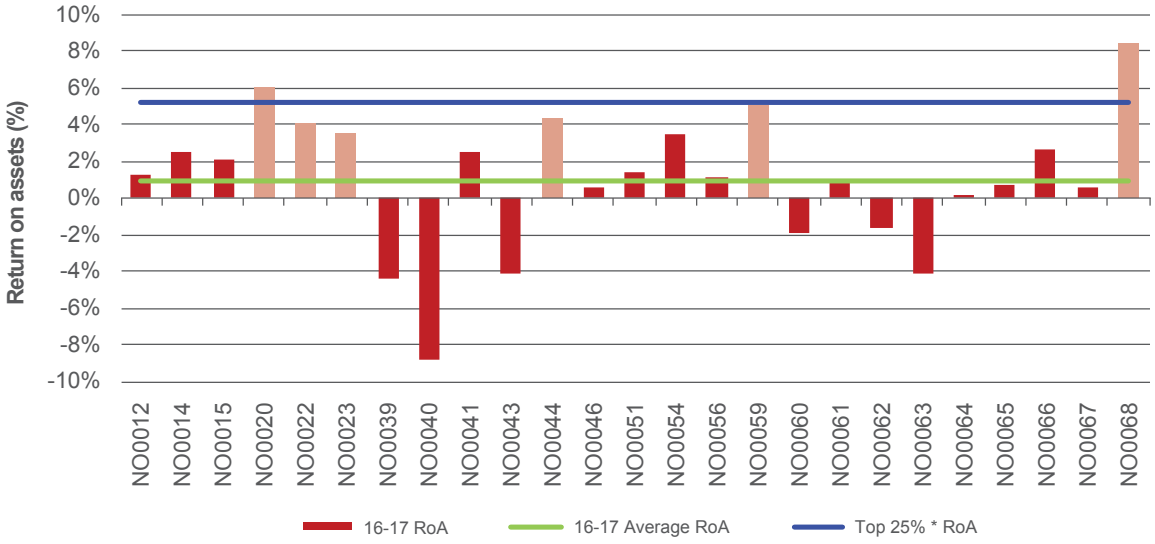


FIGURE 19. RETURN ON EQUITY – NORTH

Feed consumption and fertiliser

Farms in the North used a wide range of feeding systems. Directly grazed pasture accounted for an average of 45% of total metabolisable energy consumed.

The relative contribution of each feed type to the metabolisable energy (ME) consumption on each farm is shown in Figure 20. 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.

It should be noted that the pasture consumption data in 2016-17 is calculated through DairyBase, not the previously used DEDJTR pasture calculations so may not be directly comparable, but is reasonably similar.

There was a wide variation of feeding concentrates as a source of ME with a range of 8% to 54% this year, compared to last year's 20% to 40% range of the ME consumed. All participant farms fed hay as part of the ME consumed, with a range from 2% to 33%. Silage accounted for up to 9% of ME consumed.

The top performers sourced an average of 51% of the ME consumed from grazed pasture.

'Other' feed included sources that were not used by or generally available to dairy farmers on the common market, such as almond hulls and citrus pulp.

FIGURE 20. SOURCES OF WHOLE FARM METABOLISABLE ENERGY – NORTH

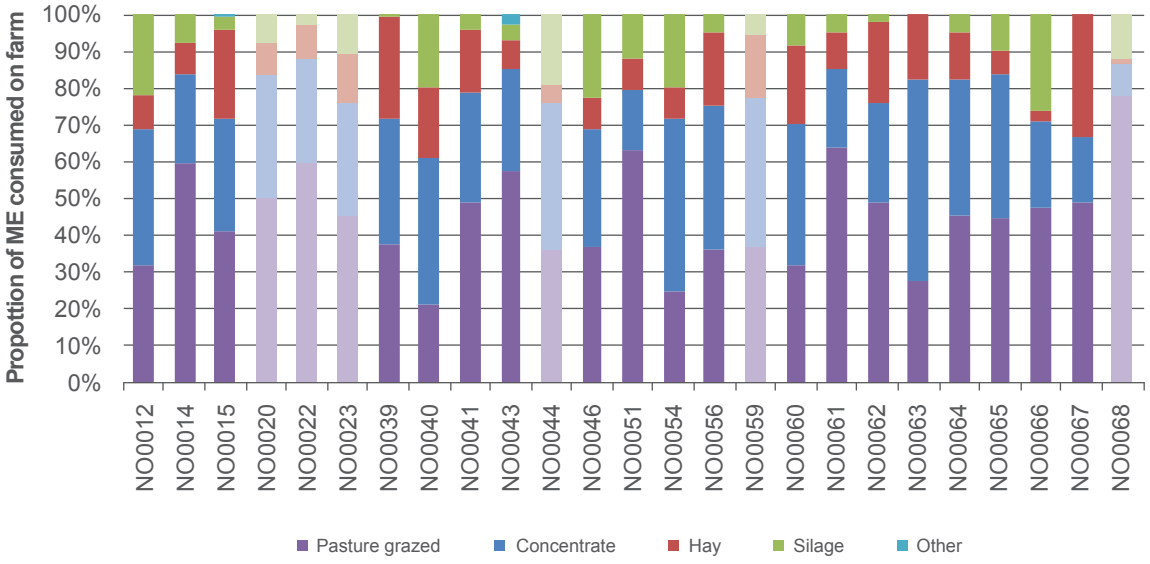


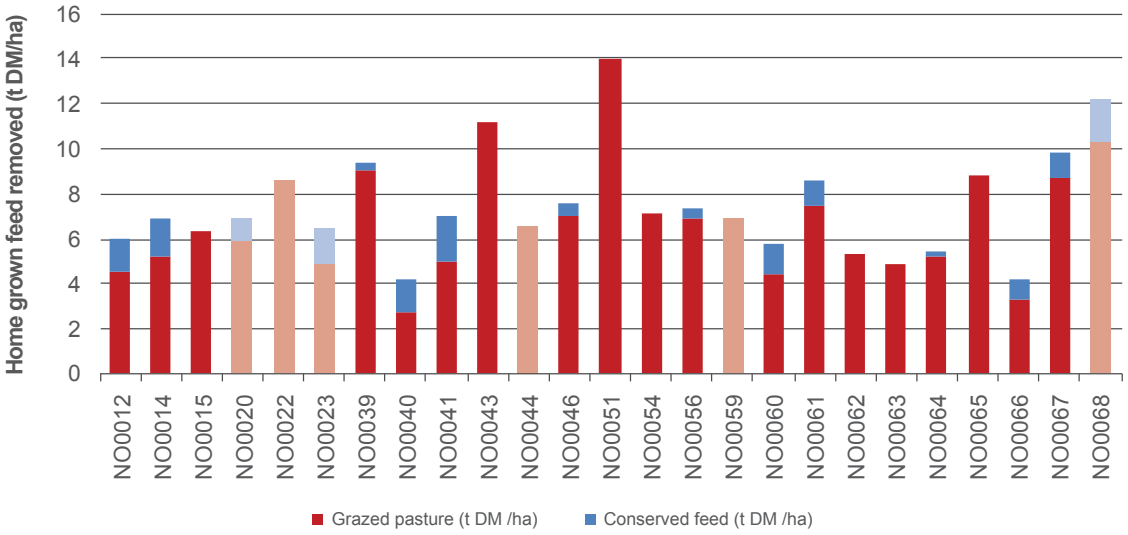
Figure 21 shows the estimated home grown feed consumed per milking hectare for farms in the North.

The challenging first half of the 2016-17 season due to above average rainfall from July to October resulted in lower amounts of pasture harvested compared with the previous year. Average pasture harvested on the milking area (grazed plus conserved) decreased from 8.2 t DM/ha last year to 7.5 t DM/ha this year. There was a decrease in the amount of directly grazed pasture available and lower quantities of fodder conserved.

The lower pasture harvested resulted in farmers using their fodder reserves as evidenced by the negative feed inventory change, and additional fodder was purchased. Ten of the 25 farms did not conserve feed this year compared to four farms last year.

There can be a number of sources of error in the method used to calculate home pasture consumption including incorrect estimation of liveweight, amounts of fodder and concentrates fed, ME concentration of fodder and concentrate, ME concentration of 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 due to errors in each farm's estimate and it is best to compare pasture consumption on the same farm over time using the same method of estimation. Noting the pasture consumption calculation was different this year caution should be taken when directly comparing results between 2015-16 and 2016-17.

FIGURE 21. ESTIMATED TONNES OF HOME GROWN FEED CONSUMED PER MILKING HECTARE – NORTH



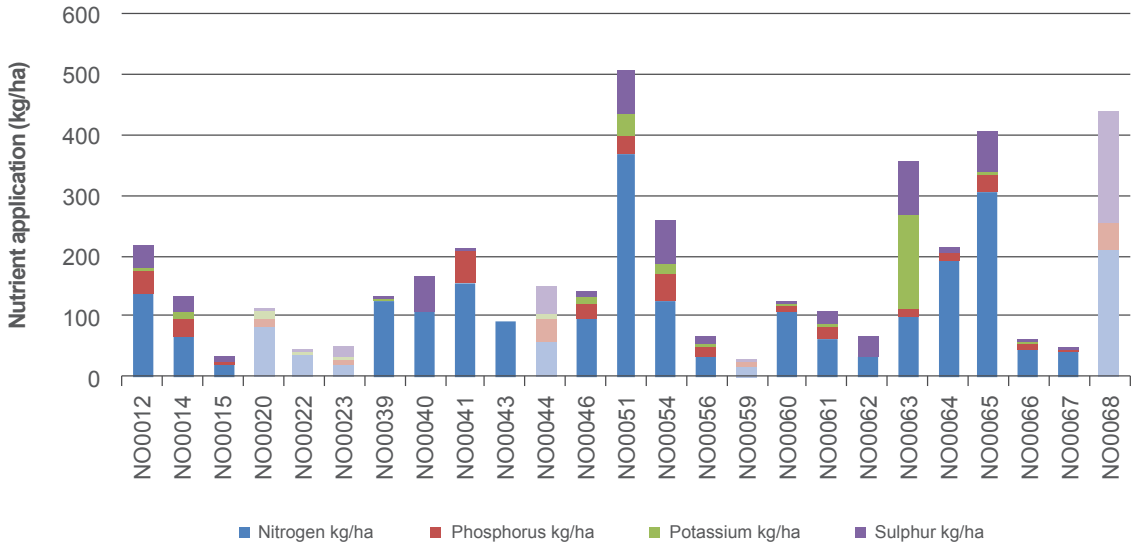
Fertiliser application

All farms in the North applied fertiliser to their crops and pasture (Figure 22). The average fertiliser application was 166 kg/ha compared to 128 kg/ha last year. Farms increased their use of nitrogen, phosphorus and sulphur, but decreased their use of potassium.

Average nitrogen use was 105 kg/ha compared to 80 kg/ha in 2015-16. More phosphorus (28%) and sulphur (56%) were applied this year at 18 kg/ha and 31 kg/ha, respectively.

Potassium application decreased from 15 kg/ha last year to 12 kg/ha this year.

FIGURE 22. NUTRIENT APPLICATION PER USABLE HECTARE – NORTH



Greenhouse gas emissions

Participant farms in the North emitted an average of 15.4 t CO_2-e/t MS in 2016-17 which was higher than 13.3 t CO_2-e/t MS in 2015-16.

Methane was the main greenhouse gas emitted from participant farms in the North accounting for 10.4 t CO_2-e/t MS, 68% of the average total greenhouse emissions. Methane produced from ruminant digestion contributed 9.1 t CO_2-e/t MS to regional average emission while methane from effluent ponds accounted for 1.3 t CO_2-e/t MS.

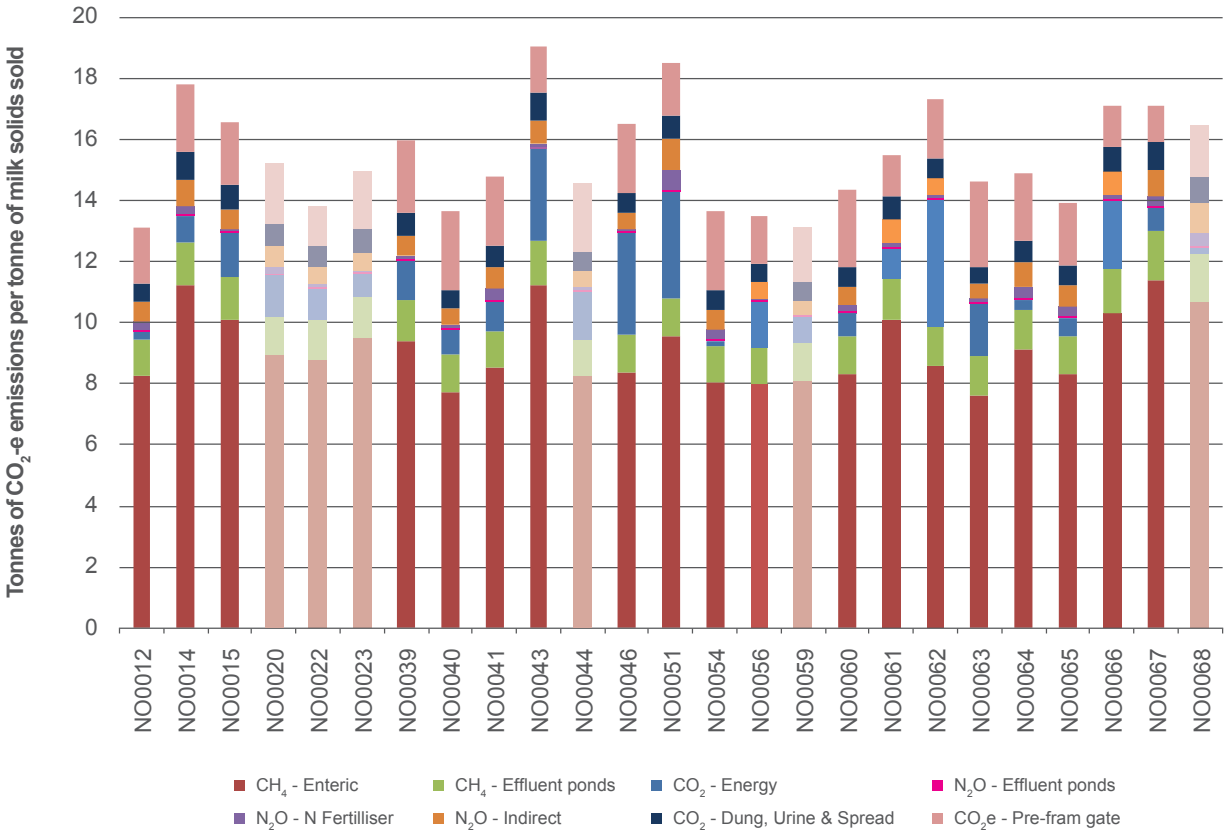
Carbon dioxide accounted for 3.4 t CO_2-e/t MS, 21% of emissions in 2016-17 comprising of 1.4 t CO_2-e/t MS from fossil fuel and 2.0 t CO_2-e/t MS from pre-farm gate sources.

Nitrous oxide had a recorded emission of 1.6 4 t CO_2-e/t MS, 11% of all emissions. Direct emissions from applied nitrogen fertiliser, effluent management systems and animal wastes accounted for 0.9 t CO_2-e/t MS. The balance of 0.7 t CO_2-e/t MS came from ammonia and nitrate loss in soils as indirect sources.

The top 25% of farms had a lower emission, an average emission of 14.7 t CO_2-e/t MS. The emissions came from methane (10.4 t CO_2-e/t MS); carbon dioxide (2.8 t CO_2-e/t MS) and nitrous oxide (1.5 t CO_2-e/t MS).

The data demonstrate that farms achieve profitability and efficiency with lower environmental footprint.

FIGURE 23. GREENHOUSE GAS EMISSIONS – NORTH



Part Three:
The South West

The South West

In 2016-17, farm SW0050 participated for the first time.

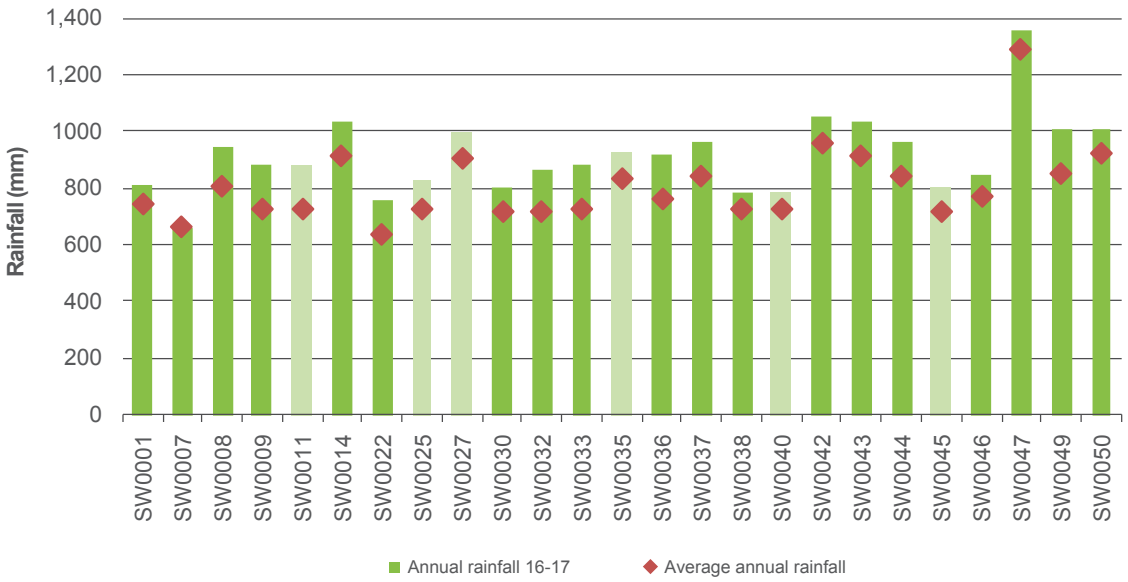
2016-17 seasonal conditions

Wet conditions provided a challenging start to 2016-17. When seasonal conditions improved, good soil moisture levels allowed large amounts of pasture to be grown and increase stored fodder reserves on farm.

Farms in the South West all received above long-term average annual rainfall in 2016-17 (Figure 24) with the first four months of the year receiving average of 50% of the annual rainfall. The wet conditions were reported to have delayed spring pasture growth, fodder production and summer cop sowing. However, when conditions improved the good stored soil moisture allowed large amounts of pasture to be grown and conserved on farm resulting in a large feed inventory increase from 2015-16 levels. Above average rainfall in April saw a wet start to autumn which replenished summer depleted soil moisture stores and allowed pasture growth through a drier than average May and June.

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

FIGURE 24. 2016-17 ANNUAL RAINFALL AND LONG TERM AVERAGE RAINFALL – SOUTH WEST



Whole Farm Analysis

Farm profits increased in 2016-17 despite a lower milk price than 2015-16. Earnings before interest and tax (EBIT) and return on assets values across the region increased as a result of reduced costs due to much lower purchased feed costs and large increases in feed inventory.

With more home grown pasture available, farmers were able to rely less on purchased concentrate and fodder as supplementary feed sources. The proportion of energy supplied to the herd from home grown forage (67%) was the highest on average in the South West since 2010-11. A reduction to purchased feed and an increase to home grown feed inventory helped offset the low milk price received in 2016-17. As a result, farms were able to return higher business profits than in 2015-16.

Key whole farm physical parameters for the South West are presented below in Table 6. The Q1 – Q3 range shows the band in which the middle 50% of farms for each parameter sit.

TABLE 6. FARM PHYSICAL DATA – SOUTH WEST

Farm Physical Parameters	South West average	Q1 to Q3 range	Top 25% average
Annual rainfall 16-17	913	809 - 1,001	871
Water used (irrigation + rainfall) (mm/ha)	969	827 - 1,032	871
Total usable area (hectares)	326	157 - 459	346
Milking cows per usable hectare	1.1	0.9 - 1.3	1.3
Milk sold (kg MS /cow)	525	482 - 558	554
Milk sold (kg MS /ha)	595	488 - 690	690
Home grown feed as % of ME consumed	67%	59% - 76%	71%
People productivity (milking cows / FTE)	98	84 - 116	109
People productivity (kg MS / FTE)	51,480	41,441 - 61,001	59,814

Gross farm income

Gross farm income includes all farm income from milk sales, cash income from livestock trading, and income from other sources such as milk factory shares and interest from bank accounts. In 2016-17 gross farm income does not include feed inventory change as it has in previous years. Feed inventory change and if applicable, change in the value of carry-over water are included as feed costs. Figure 25 provides a breakdown of milk and other income for the participants in the South West.

The milk price received ranged from $4.77kg MS to $6.01/kg MS (Figure 25) with an average of $5.25/kg MS. The 2016-17 average milk price was 4% down from $5.47/kg MS received in 2015-16.

Farms that were in the top 25% for return on assets received an average milk price of $5.43/kg MS. This price was 3% higher than the average price received for farms that were outside the top 25%.

FIGURE 25. GROSS FARM INCOME PER KILOGRAM OF MILK SOLIDS – SOUTH WEST

Milk solids sold

Milk solids are the combined amount of milk fat and protein produced measured in kilograms. The top 25% farms increased milk solids sold per hectare to 677 kg MS/ha from 673 kg MS/ha in 2015-16. However, the regional average decreased milk solids per hectare to 595 kg MS/ha from 625 kg MS/ha (Table 6).

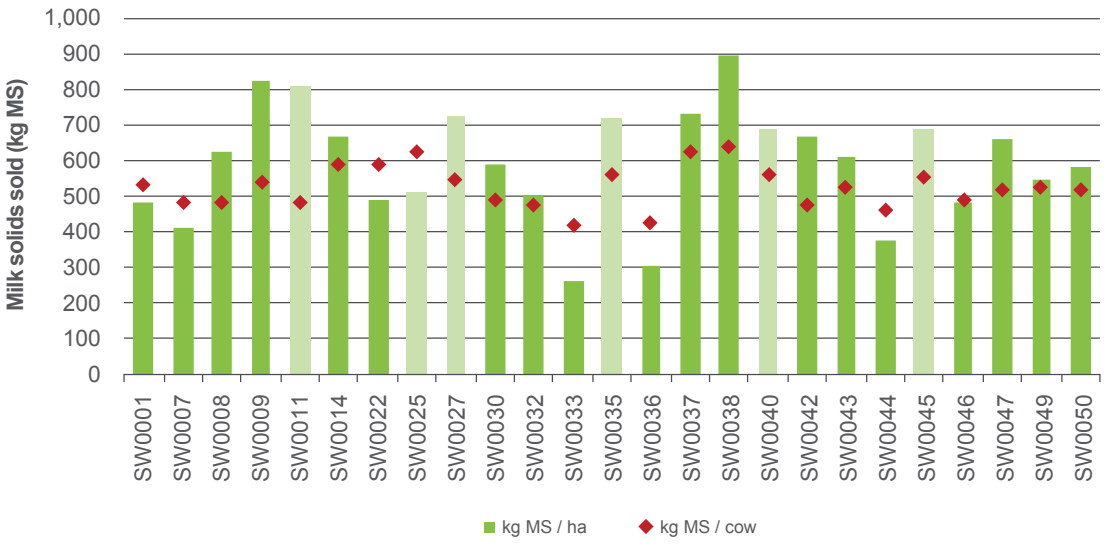
The results were the opposite for milk sold per cow. The regional average milk solids per cow increased to 525 kg MS/cow from 523 kg MS/cow in 2015-16. However, the top 25% average kilograms of milk solids per cow decreased to 554 kg MS/cow down from 564 MS/cow in 2015-16.

A decrease in the regional average stocking rate from 1.2 cows/ha in 2015-16 to 1.1 cows/ha in 2016-17 (Table 6) and an increase in the top 25% stocking rate from 1.2 in 2015-16 to 1.3 cows/ha in 2016-17, helps explain the regional changes in milk yield for both measures.

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

Milk yield per farm was lower in early in 2016-17 than at the same time in 2015-16 with average milk solids produced in October dropping from 22,257 kg MS in 2015-16 to 19,860 kg MS, an 11% decrease. By the end of the year milk yield recovered as May and June recorded higher total monthly averages than the previous year. Average annual yield was 4% lower than in 2015-16.

FIGURE 26. MILK SOLIDS SOLD – SOUTH WEST



Variable costs

Figure 27 shows the breakdown of whole farm costs as variable and overhead costs per kilogram of milk solids. Variable costs are costs that change directly according to the amount of output, such as herd, shed and feed costs.

Feed costs were the major variable cost on South West farms. In 2016-17 the amount spent on purchased feed costs was significantly reduced from 2015-16. This reduction was due to decreases in the amount and lower value of purchased feed. The average amount spent on fodder purchases decreased by 71% from $0.49/kg MS in 2015-16 to $0.14/kg MS in 2016-17. The average amount spent on concentrate purchases dropped by 23% from $1.70/kg MS in 2015-16 to $1.29/ kg MS with the average concentrate value dropping by 14% from $400/ t DM in 2015-16 to $345/t DM. The amount spent on hay and silage making increased from $0.13/kg MS in 2015-16 to $0.19/ kg MS in 2016-17. This is explained by the large amount of conserved feed and feed inventory gains seen on South West farms in 2016-17.

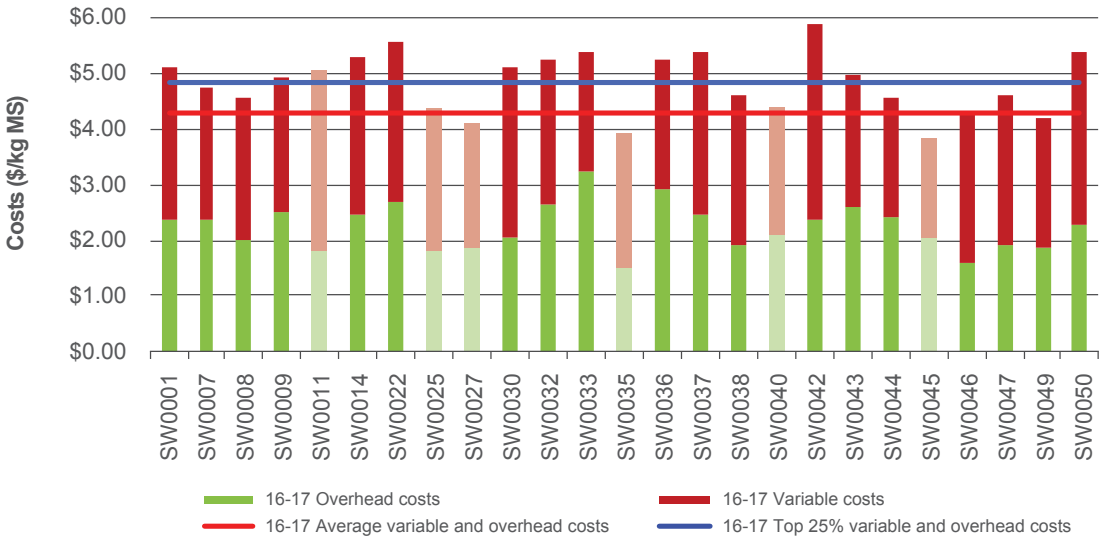
The breakdown of the variable costs can be found in Appendix Table C6.

Overhead costs

The calculation of overhead costs in the Dairy Farm Monitor project consists of cash and non-cash costs to the dairy business. Examples of cash overheads include rates, insurance and employed labour, and non-cash overheads includes depreciation and imputed owner/ operator and family labour.

In 2016-17 the regional average for overhead costs was $2.23/kg MS which was similar to 2015-16. The major overhead cost was labour, which included both employed and imputed (owner/operator) labour. Farms in the regional top 25% for RoA were able to reduce non-cash overhead costs. Farms in the top 25% had $0.56/ kg MS in imputed labour costs compared to the average of $0.83/ kg MS. However, farms in the regional top 25% spent $0.58/ kg MS on employed labour which was 18% more than the average of $0.49/kg MS. Farms with the highest RoA 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 6).

FIGURE 27. WHOLE FARM VARIABLE AND OVERHEAD COSTS PER KILOGRAM OF MILK SOLIDS – SOUTH WEST



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.

Where a positive change in inventory occurred, such as the average of $0.26/kg MS, it indicates the total fodder reserve level has increased and so is counted as a reduction to the cost of production.

The average cost of production (with inventory change) was $4.76/kg MS, a 22% decrease from last year, with the top 25% of farms decreasing 29% to $4.26/kg MS (Table 7). The decrease in cost of production was largely due a decrease in the amount spent on purchased feed and an increase in feed inventory in 2016-17.

TABLE 7. COST OF PRODUCTION – SOUTH WEST

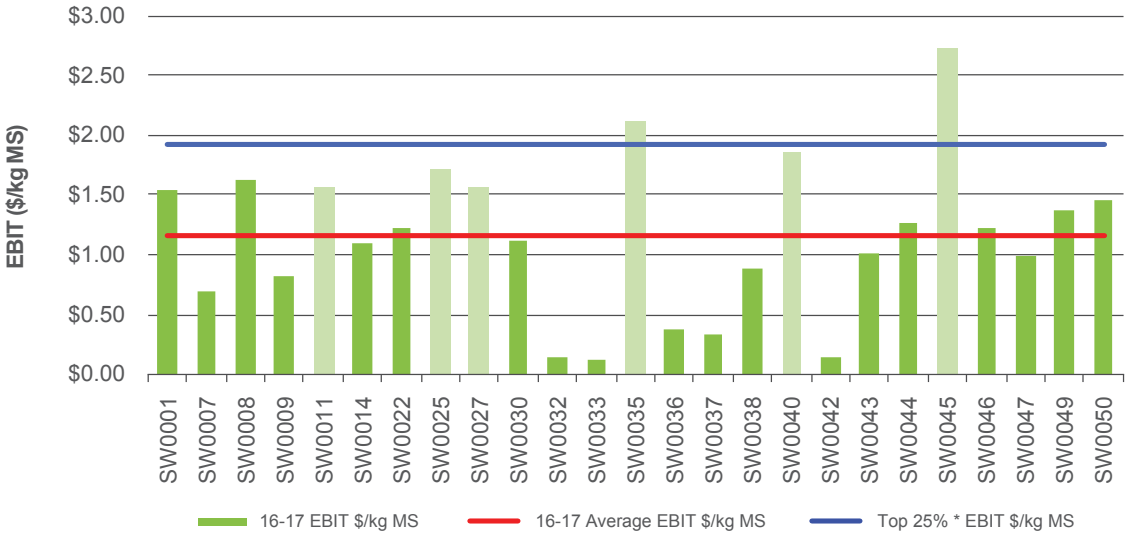
Farm costs	South West average	Q1 to Q3 range	Top 25% average
VARIABLE COSTS			
Herd costs	$0.25	$0.20 - $0.28	$0.23
Shed costs	$0.20	$0.18 - $0.23	$0.18
Purchased feed and agistment	$1.50	$1.16 - $1.79	$1.36
Home grown feed cost	$0.90	$0.76 - $1.03	$0.87
Total variable costs	**$2.85**	**$2.53 - $3.12**	**$2.65**
OVERHEAD COSTS			
Employed labour	$0.51	$0.16 - $0.75	$0.58
Repairs and maintenance	$0.33	$0.23 - $0.42	$0.26
All other cash overheads	$0.27	$0.19 - $0.34	$0.27
Total cash overheads	**$1.11**	**$0.73 - $1.42**	**$1.12**
Cash cost of production	$3.98	$3.38 - $4.71	$3.77
Depreciation	$0.29	$0.17 - $0.37	$0.18
Imputed labour	$0.83	$0.41 - $1.07	$0.56
Non-cash overheads	**$1.12**	**$0.74 - $1.42**	**$0.74**
Cost of production without inventory change	$5.09	$4.54 - $5.57	$4.51
INVENTORY CHANGE			
+/- feed inventory changes	- $0.26	- $0.38 - $-0.07	-$0.24
+/- livestock inventory changes - purchases	- $0.08	- $0.22 - $0.12	-$0.02
Cost of production with inventory change	$4.76	$4.16 - $5.21	$4.26

Earnings before interest and tax

Earnings before interest and tax is the return from all the capital invested in the business and is calculated by subtracting variable and overhead costs, including imputed labour costs and depreciation from gross farm income.

All South West participants achieved positive earnings before interest and tax in 2016-17 (Figure 28). The average EBIT per kg MS increased five-fold to $1.16/kg MS from $0.18/kg MS recorded in 2015-16. The top 25% increased average EBIT to $1.92/kg MS from $1.28/kg MS recorded in 2015-16. A higher EBIT was the result of a reduction in purchased feed costs and increases in home grown feed inventory, offsetting a lower milk price received.

FIGURE 28. WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER KILOGRAM OF MILK SOLIDS – SOUTH WEST



Return on assets and equity

Return on assets is EBIT expressed as a percentage of total assets under management. It is an indicator of the overall earning power of total assets, irrespective of capital structure. Return on equity is a measure of the owner's rate of return on investment. It is calculated as net farm income (EBIT minus interest and lease costs) expressed as a percentage of owner's equity.

In 2016-17 all participants in the South West achieved a positive return on assets (Figure 29). The return on assets for the South West region increased on average from 0.6% in 2015-16 to 4.2% in 2016-17. Farms in the top 25% also increased return on assets to 7.6% from 4.8% in 2015-16. The higher return on assets seen in the South West in 2016-17 was due to large increases in farm EBIT from 2015-16 using a total managed asset value that remained similar to 2015-16.

In 2016-17 the average return on equity in the South West was 4.2%. This was an increase from an average of negative 2.8% in 2015-16. Farms in the top 25% for return on assets increased return on equity to 11.9% from 3.6% recorded in 2015-16.

The rise in return on equity was a result of a significant increases to average net farm income offsetting the slight decrease to the average farm equity. Net farm income was boosted in 2016-17 due to a reduction in the amount of land leased by farms in the South West and low interest rates. As a consequence the region recorded the lowest average interest and lease payments in 11 years (real). However in 2016-17, the region increased the average total farm debt from 2015-16 levels. As a result of the increase in farm debt the average equity percentage of the region dropped by one percentage point to 64% (Appendix C8). Equity percentage is farm equity (total assets minus total liabilities) as percentage total assets. A decrease equity percentage equates to a decrease in net worth.

Figures 30 and 31 were calculated excluding capital appreciation.

FIGURE 29. RETURN ON ASSETS – SOUTH WEST

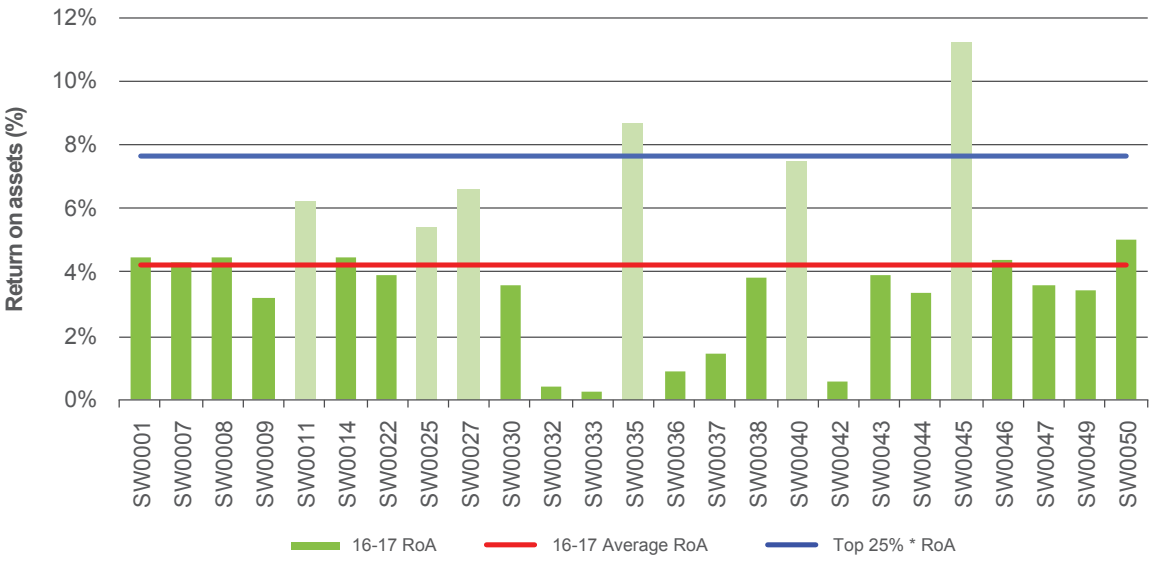
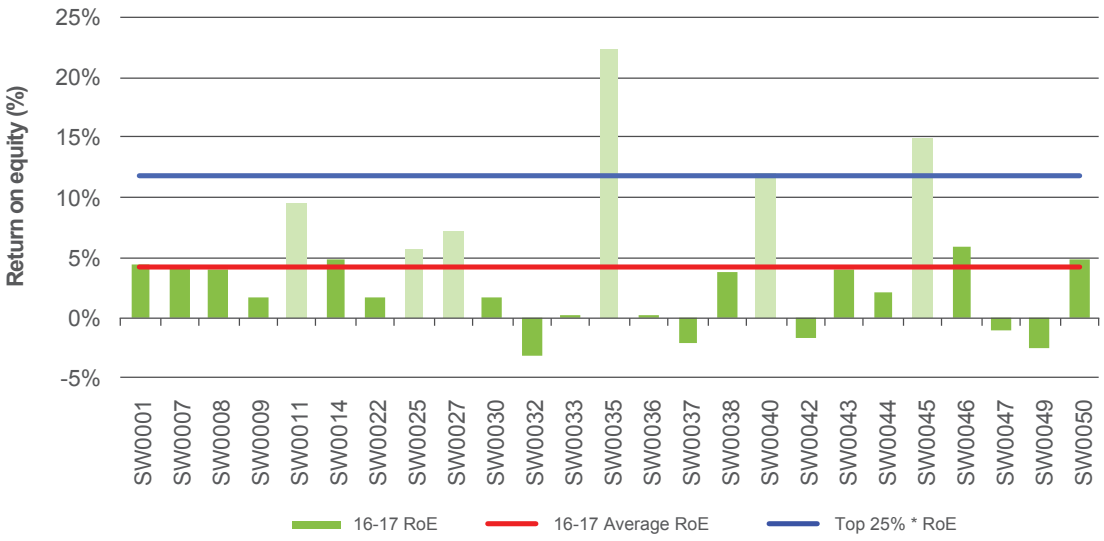


FIGURE 30. RETURN ON EQUITY – SOUTH WEST



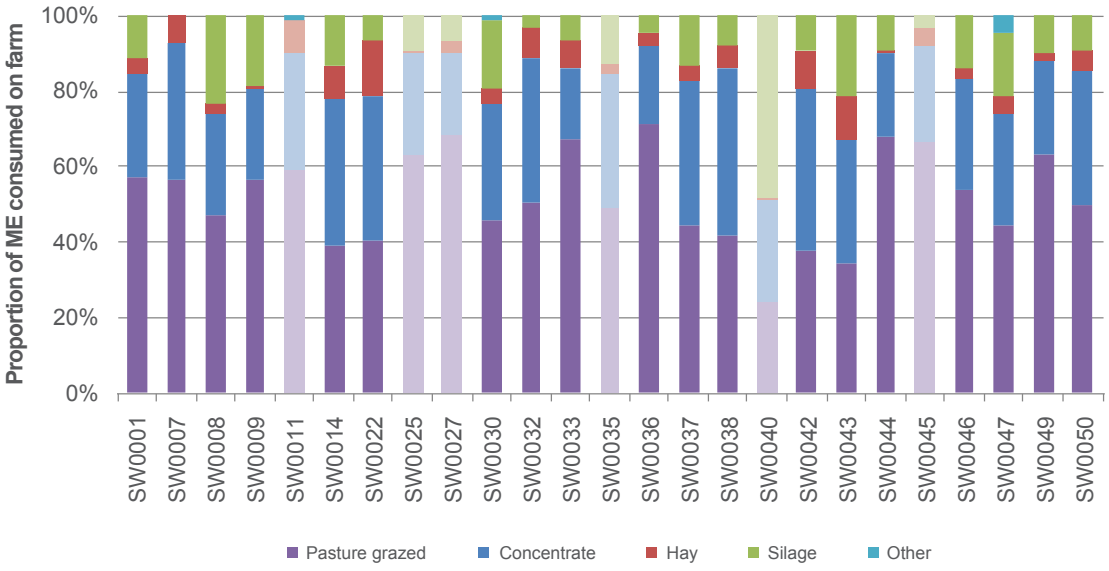
Feed consumption and fertiliser

South West farms sourced 52% of their metabolisable energy (ME) from directly grazed pasture in 2016-17, an increase from 37% in 2015-16. This highlights the effect of improved climatic conditions in 2016-17 and a lower reliance on purchased feeds.

This year pasture consumption calculations have changed slightly to align with DairyBase. This change calculations needs to be considered when comparing 2016-17 to previous years pasture consumption amounts and proportion of ME consumed. In 2016-17 average home grown feed as a percentage of ME consumed was 67% compared to 52% in 2015-16.

Figure 31 shows the relative contribution of each feed type to the ME consumption on farm. Concentrates were on average the most used supplement, followed by silage and hay. While this trend in usage is similar to 2015-16, in 2016-17 there was much less reliance on hay for metabolisable energy.

FIGURE 31. SOURCES OF WHOLE FARM METABOLISABLE ENERGY – SOUTH WEST

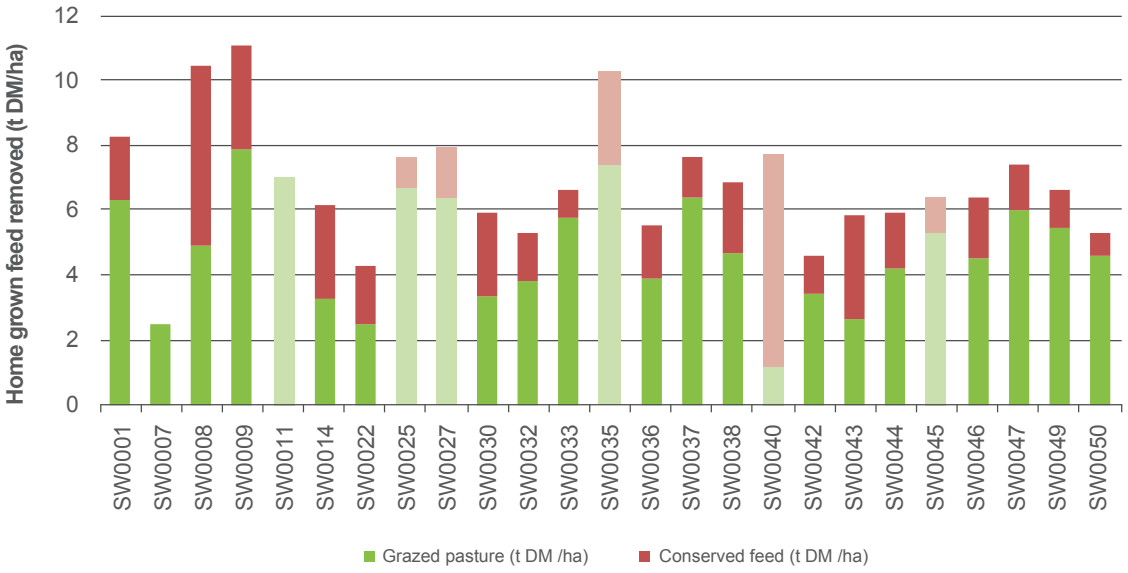


Home grown feed consumption is shown in Figure 32. In 2016-17 the average total pasture harvested (grazed and conserved) from the milking area was 7.0 t DM/ha, an increase of 2.0 t DM/ha from the amount harvested in 2015-16. This was due to larger amounts of directly grazed pasture and increases in home grown conserved fodder.

The average pasture consumed as grazed feed on the milking area was 4.8 t DM/ha an increase from 3.4 t DM/ha grazed in 2015-16. Conserved pasture amounts also increased to 2.2 t DM/ha in 2016-17 from an average of 1.5 t DM/ha in 2015-16.

It should be noted that there can be a number of sources of error in the method used to calculate home pasture consumption including incorrect estimation of liveweight, amounts of fodder and concentrates fed, ME concentration of fodder and concentrate, ME concentration of 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 due to errors in each farm's estimate and it is best to compare pasture consumption on the same farm over time using the same method of estimation.

FIGURE 32. ESTIMATED TONNES OF HOME GROWN FEED CONSUMED PER MILKING HECTARE – SOUTH WEST



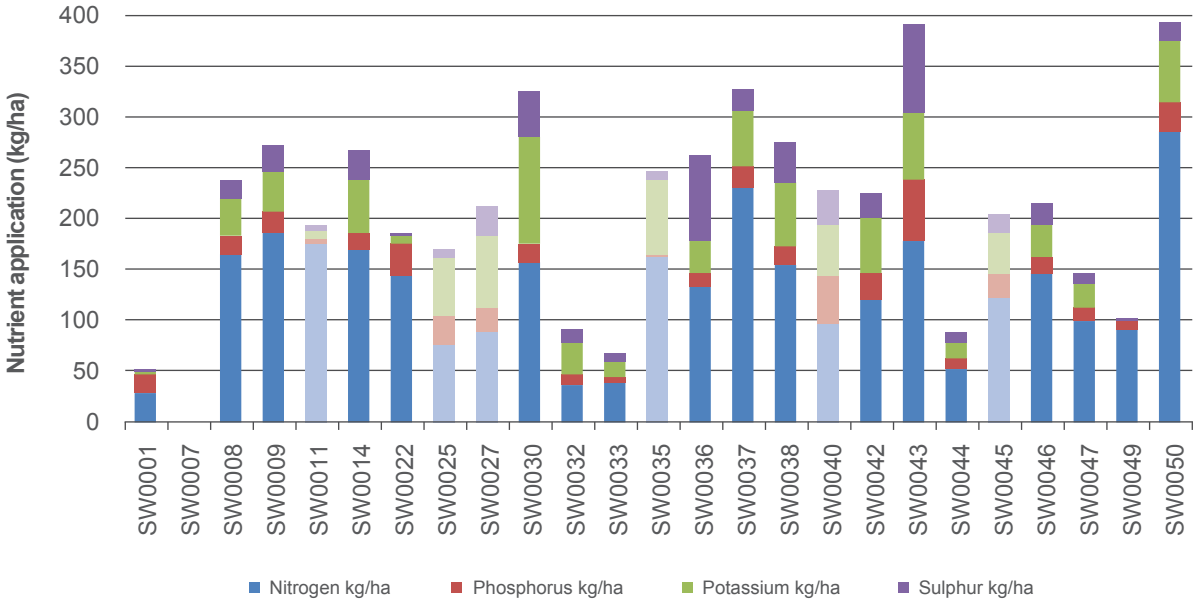
Fertiliser application

Average total nutrients applied in 2016-17 increased slightly to 208 kg/ha from 202 kg/ha applied in 2015-16.

In 2016-17, nitrogen fertiliser application significantly increased to 126 kg/ha compared to 102 kg/ha in 2015-16.

There were also increases in average phosphorous (20 kg/ha) and sulphur (23 kg/ha) use in 2016-17, with both nutrients returning to similar application levels seen in 2014-15. The individual values relating to Figure 33 can be found in Appendix Table C2.

FIGURE 33. NUTRIENT APPLICATION PER USABLE HECTARE – SOUTH WEST



Greenhouse gas emissions

Participant farms in the South West emitted an average of 15 t CO_2-e/t MS in 2016-17 which was higher than 13.6 t CO_2-e/t MS in 2015-16.

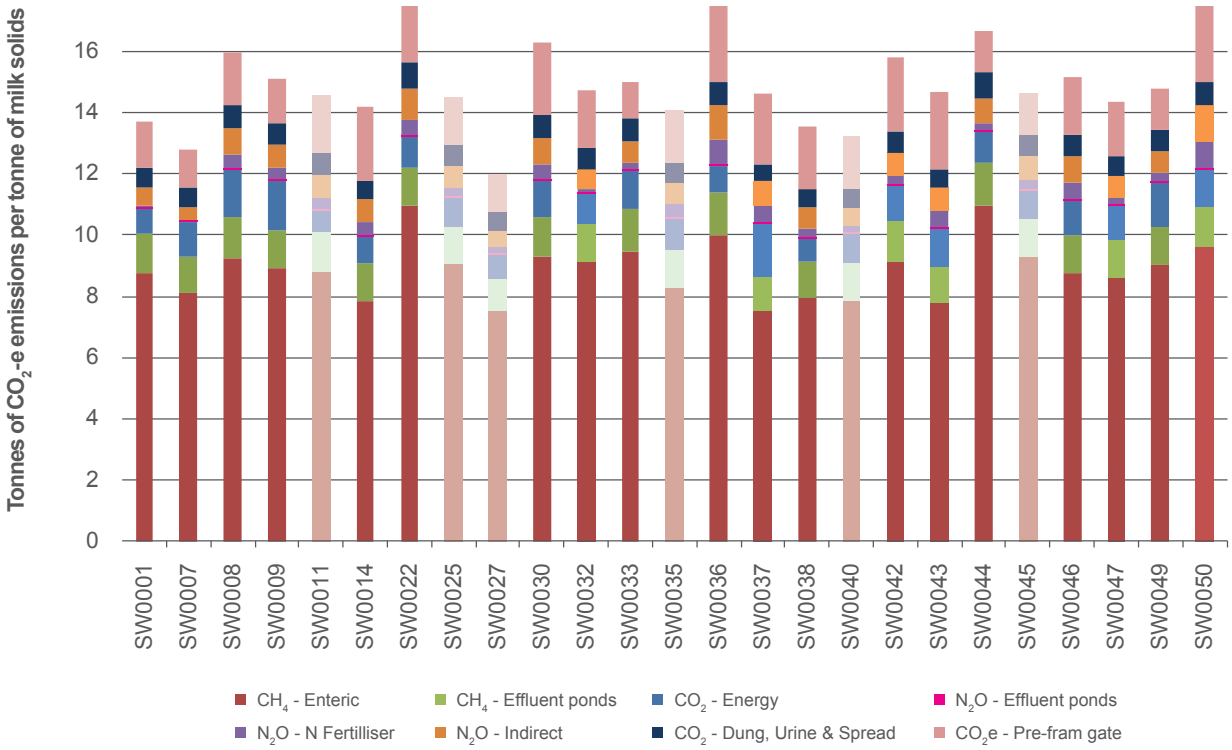
Methane was the main greenhouse gas emitted from participant farms in the South West accounting for 10.1 t CO_2-e/t MS, 68% of the average total greenhouse emissions. Methane produced from ruminant digestion contributed 8.9 t CO_2-e/t MS to regional average emission while methane from effluent ponds accounted for 1.3 t CO_2-e/t MS (Figure 34).

Carbon dioxide accounted for 3.0 t CO_2-e/t MS, 20% of emissions in 2016-17 comprising of 1.1 t CO_2-e/t MS from fossil fuel and 1.9 t CO_2-e/t MS from pre-farm gate sources.

Nitrous oxide with recorded emission of 1.9 t CO_2-e/t MS was 12% of all emissions. Direct emissions from applied nitrogen fertiliser, effluent management systems and animal wastes accounted for 1.1 t CO_2-e/t MS. The balance of 0.8 t CO_2-e/t MS came from ammonia and nitrate loss in soils as indirect sources.

The top 25% of farms had a lower emission, an average emission of 13.8 t CO_2-e/t MS. The emissions came from methane (9.7 t CO_2-e/t MS); carbon dioxide (2.5 t CO_2-e/t MS) and nitrous oxide (1.7 t CO_2-e/t MS).

FIGURE 34. GREENHOUSE GAS EMISSIONS – SOUTH WEST



Part Four: **Gippsland**

Gippsland

All but one farm returned for the project this year. GI0023 returned to the project after an eight year absence.

2016-17 seasonal conditions

Gippsland dairy farms experienced better seasonal conditions in 2016-17 but still experienced many challenges. The general climate was mild providing good fodder harvesting opportunities. The irrigated region had adequate water availability to make the most of home grown feed.

Figure 35 presents the annual rainfall received on each farm compared to the long term average. In 2016-17 Gippsland farmers received 89% of the long term average rainfall, the third year in a row with below average rain. The rainfall events were spread across the growing season to enable good pasture growth, grazing and harvesting opportunities.

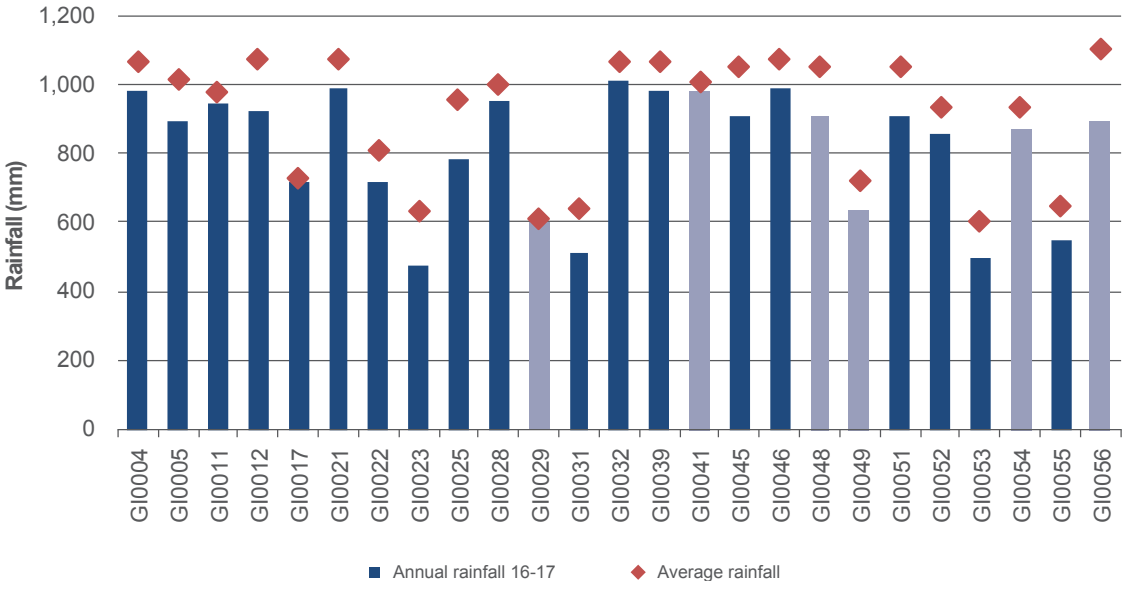
South Gippsland held good soil moisture conditions throughout much of spring and summer and only just holding positive growing conditions through well timed rain events during autumn. The weather conditions were mild to slightly dry but there was still adequate opportunity to harvest and bolster fodder reserves this season.

East Gippsland reported positive pasture growing conditions throughout despite being slightly drier than normal. Mild weather maintained good pasture growth rates and quantities providing opportunities for fodder reserves to be increased in this area as well.

The Macalister Irrigation District (MID) had overall positive pasture growing conditions with an initial seasonal determination of 70% high reliability water shares which was upgraded to 100% with up to 20% low reliability water shares. Modest seasonal inflows provided high volumes of spill water from Glenmaggie Weir until December which meant minimal temporary water purchase and use across the district.

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

FIGURE 35. 2016-17 ANNUAL RAINFALL AND LONG TERM AVERAGE RAINFALL – GIPPSLAND



Whole Farm Analysis

While the physical characteristics do not define the profitability of a farm, they contribute to its economic performance. The top 25% of Gippsland participants had significantly higher labour efficiency per cow and per hectare, as well as per cow production of milk solids per hectare. The top 25% also had a slightly larger usable area and number of cows, and leading to a higher stocking rate than the average.

The physical characteristics of the top 25% performers only partly explain their ability to be more profitable compared to the average as shown in Table 8. Caution must be taken when looking at these physical parameters in isolation.

The top 25% performers have combined larger usable area, slightly larger milking herd size, higher per hectare milk solids production to have a higher (than last year) contribution of feed from home grown sources. This combined with careful cost management, resulted in higher than average performance.

The top 25% performers, had higher labour efficiency in terms of milk solids per full time equivalent (FTE) with 64,707 kg MS/FTE which was moderately higher than the 60,385 kg MS/FTE recorded in 2015-16.

Both the average and top 25% performers improved their home grown feed percentage of metabolisable energy consumed by 19% and 11% respectively compared to last year, reflecting the better pasture availability in 2016-17.

The top 25% performers had a higher stocking rate on their usable area at 2.1 cows per hectare (cows/ha) compared to the average of 1.7 cows/ha, while their production per cow was slightly lower than the average at 479 kg of milk solids per cow compared to 486 kg MS/cow.

The Gippsland averages increased from 482 kg MS/cow last year to 486 kg MS/cow but production per hectare further reduced to 823 kg MS/ha from 836 kg MS/ha last year and 890 kg MS/ha from 2014-15, as shown in Table 1.

Per hectare milk production appeared to be the focus of the top 25% with 942 kg MS/ha compared to the average of 823 kg MS/ha for the average.

Favourable growing conditions led to an increase in home grown feed as a percentage of ME consumed in 2016-17. Although this has been calculated using a slightly different method via DairyBase this year, this year's home grown feed as a percentage of ME consumed is 70% on average, compared to 59% last year using the DEDJTR pasture consumption calculator. The top 25% also increased to 72% home grown feed as a percentage of ME consumed from 65%.

TABLE 8. FARM PHYSICAL DATA – GIPPSLAND

Farm Physical Parameters	Gippsland average	Q1 to Q3 range	Top 25% average
Annual rainfall 16-17	819	716 - 952	815
Water used (irrigation + rainfall) (mm/ha)	953	896 - 988	989
Total usable area (hectares)	203	115 - 266	238
Milking cows per usable hectare	1.7	1.2 - 1.6	2.0
Milk sold (kg MS /cow)	486	465 - 531	479
Milk sold (kg MS /ha)	823	548 - 836	942
Home grown feed as % of ME consumed	70%	65% - 75%	72%
Labour efficiency (milking cows / FTE)	109	94 - 126	136
Labour efficiency (kg MS / FTE)	52,969	44,830 - 64,157	64,707

Gross farm income

Gross farm income includes all farm income relating to the dairy farm business, whether from milk sales, a change in livestock inventories, cash income from livestock trading or any other dairy related income. In 2016-17 feed inventory change and if applicable, change in the value of carry-over water are included as feed costs.

Gross farm income (less feed inventory) in Gippsland reduced by 7% this year compared to 2015-16, having already dropped by 11% the previous year. Once again, the majority of this reduction was attributable to the lower milk price received. Figure 36 shows the variation in gross farm income (excluding feed inventory change) per kilogram of milk solids from $3.75/kg MS to $6.74/kg MS.

Included in this large variation is livestock trading profit inclusive of inventory change.

The average gross farm income for Gippsland participants was $5.50/kg MS compared to the top 25% performers with a 6% reduction in gross farm income to $5.55/kg MS, when compared to last year.

Milk price has continued its downward trend reducing by at 8% to $4.84/kg MS, compared to an average of $5.28/kg MS last year. The top 25% performers also received a reduction of 8% to their milk income from $5.28/kg MS last year to $4.85/kg MS this year.

The range for milk price in the region was between $4.42/kg MS to $5.58/kg MS.

FIGURE 36. GROSS FARM INCOME PER KILOGRAM OF MILK SOLIDS – GIPPSLAND

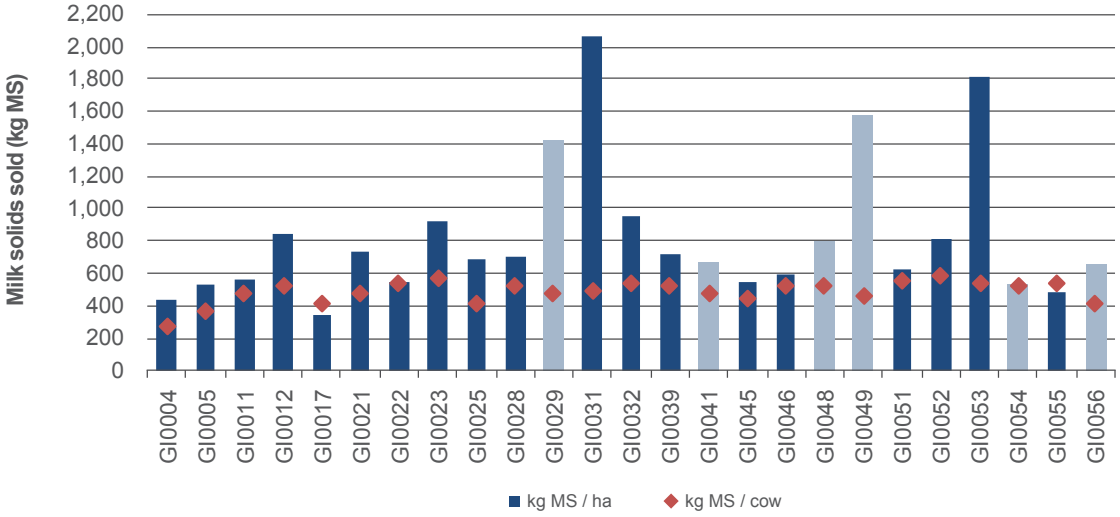
Milk solids sold

The top 25% performers reduced their milk solids sold by 9% this year. In 2015-16 milk solids sold was 1,041 kg MS/ha. This reduced to 942 kg MS/ha in 2016-17.

As shown in Figure 37 the range in milk solids sold was 342 to 2,070 kg MS/ha with the average being 836 kg MS/ha reducing from 890 kg MS/ha last year. Not all producers focus on per hectare production, therefore in 2016-17

Figure 37 also presents data for per cow production. Milk production ranged from 268 kg MS/cow to 580 kg MS/cow with an average of 486 kg MS/cow. This clearly indicates that there is no one best production system to perform in the top 25% of Gippsland participants. The top 25% performers sold an average of 942 kg MS/ha or 479 kg MS/cow.

FIGURE 37. MILK SOLIDS SOLD PER HECTARE AND PER COW – GIPPSLAND



Variable costs

The separation of variable and overhead costs per kilogram of milk solids is shown in Figure 38. Variable costs are those costs that change directly according to the amount of output, such as herd, shed and feed costs.

Variable costs in 2016-17 also included feed inventory change in the category of feed costs so these may not be directly comparable with previous years.

The range of variable costs in Gippsland was $1.86/kg MS to $3.40/kg MS with an average of $2.68/kg MS. This was a considerable decrease from the 2015-16 average variable costs of $3.34/kg MS including feed inventory change.

In 2016-17 the top 25% performers had average variable costs of $2.32/kg MS, which was also considerably lower than $2.82/kg MS including feed inventory change in 2015-16.

In 2016-17 the largest variable cost was feed, despite this being significantly lower in dollar terms at $2.21/kg MS this year. Feed costs in 2015-16 were 50% of total costs (variable plus overhead costs) compared to 46% this year. The largest contributors to lower feed costs were the reduction in purchased fodder and concentrates purchased at lower prices due to favourable seasonal conditions. Concentrate costs at an average of $1.21/kg MS were significantly reduced by 21% from last year.

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 38 illustrates the overhead costs per kilogram of milk solids. This includes the cash overhead costs and non-cash overhead costs (for imputed owner-operator and family labour and depreciation).

Gippsland participants historically have maintained the lowest overhead cost structure of the three regions in Victoria. A decrease in overhead costs by $0.12/kg MS this year compared to last year, contributed to Gippsland participants on average maintaining profitability in a tight income year. Total expenditure on overhead costs in Gippsland during 2016-17 ranged between $1.27/kg MS and $3.32/kg MS, with the average of $2.10/kg MS being a 5% decrease on last year.

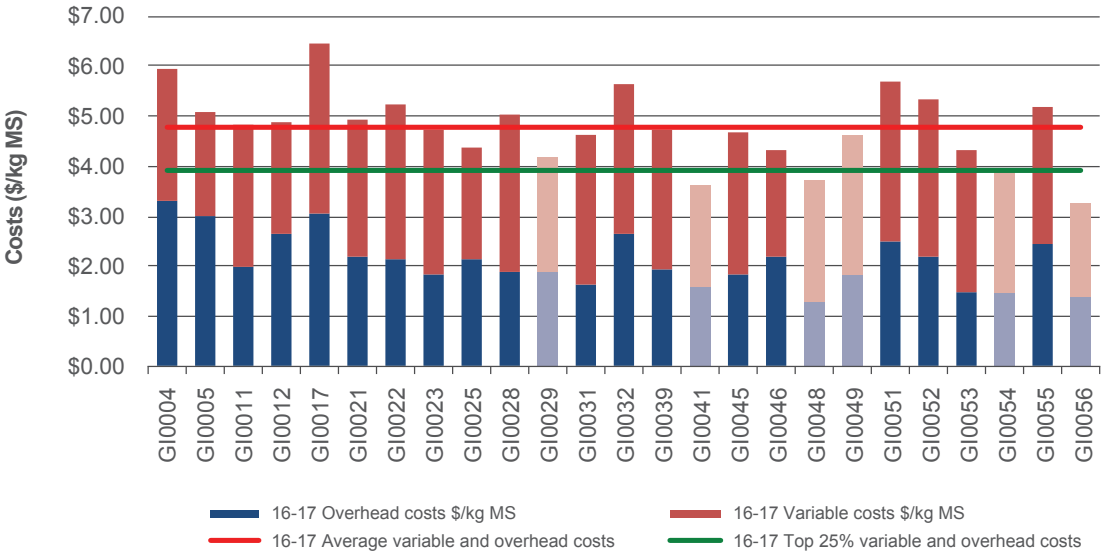
The top 25% have lowered their overhead costs by 17% to $1.58/kg MS from last year's average overhead costs of $1.90/kg MS, returning to a similar cost structure to 20014-15. Table 9 provides an indication of the range of overheads per kilogram of milk solids sold. The breakdown of overheads costs can be found in Appendix Tables D5 and D7.

A combination of efforts to reduce overhead costs by the top 25% led to lower general cash overhead costs, lower depreciation and lower imputed labour costs on average for the top 25% performers being $0.52/kg MS lower than the average.

Total labour (imputed and paid) on farms this year was the same for both the top 25% performers and the average at 2.7 FTEs. Employed labour costs were similar for the average Gippsland farm at $0.52/kg MS compared to the top 25% at $0.50/kg MS. The cost of imputed labour was considerably higher for the average at $0.86/kg MS, very similar to last year, compared to the top 25% performers with an imputed labour cost of $0.56/kg MS. It is the reduction in imputed labour cost for the top 25% performers from $0.85/kg MS which has led to significant overhead costs savings this year.

The other non-cash overhead cost to have exhibited a great degree of difference this year is depreciation. The depreciation cost of the average farm was down by 18% to $0.20/kg MS and halved for the 25% of producers to $0.12/kg MS.

FIGURE 38. WHOLE FARM VARIABLE AND OVERHEAD COSTS PER KILOGRAM OF MILK SOLIDS – GIPPSLAND



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 9 shows that the average cost of production has decreased by 14% from $5.55/kg MS last year to $4.78/kg MS this year. The top 25% of farms had a cost of production of $3.75/kg MS, also considerably reduced by 31% from $5.46/kg MS in 2015-16.

The feed inventory increased this year (showing a negative cost) by $0.0.3/kg MS on average and by $0.04/kg MS for the top 25% performers indicating more fodder on hand at the end of the year than at opening.

Table 9 shows a negative cost for livestock inventory change on 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 9. COST OF PRODUCTION – GIPPSLAND

Farm costs	Gippsland average	Q1 to Q3 range	Top 25% average
VARIABLE COSTS			
Herd costs	$0.27	$0.19 - $0.32	$0.27
Shed costs	$0.20	$0.16 - $0.22	$0.20
Purchased feed and agistment	$1.38	$1.21 - $1.66	$1.23
Home grown feed cost	$0.86	$0.67 - $1.06	$0.66
Total variable costs	**$2.71**	**$2.40 - $2.97**	**$2.35**
OVERHEAD COSTS			
Employed labour	$0.52	$0.24 - $0.72	$0.50
Repairs and maintenance	$0.25	$0.20 - $0.30	$0.22
All other cash overheads	$0.26	$0.20 - $0.32	$0.18
Total cash overheads	**$1.03**	**$0.68 - $1.18**	**$0.90**
Cash cost of production	$3.74	$3.11 - $4.30	$3.26
Depreciation	$0.20	$0.11 - $0.26	$0.12
Imputed labour	$0.86	$0.60 - $0.88	$0.56
Non-cash overheads	**$1.07**	**$0.69 - $1.35**	**$0.68**
Cost of production without inventory change	$4.81	$4.43 - $5.25	$3.94
INVENTORY CHANGE			
+/- feed inventory changes	-$0.03	- $0.14 - $0.02	- $0.04
+/- livestock inventory changes - purchases	$0.00	- $0.15 - $0.15	- $0.15
Cost of production with inventory change	$4.78	$4.17 - $5.17	$3.75

Earnings before interest and tax

Earnings before interest and tax (EBIT) is equal to gross farm income less variable and overhead costs.

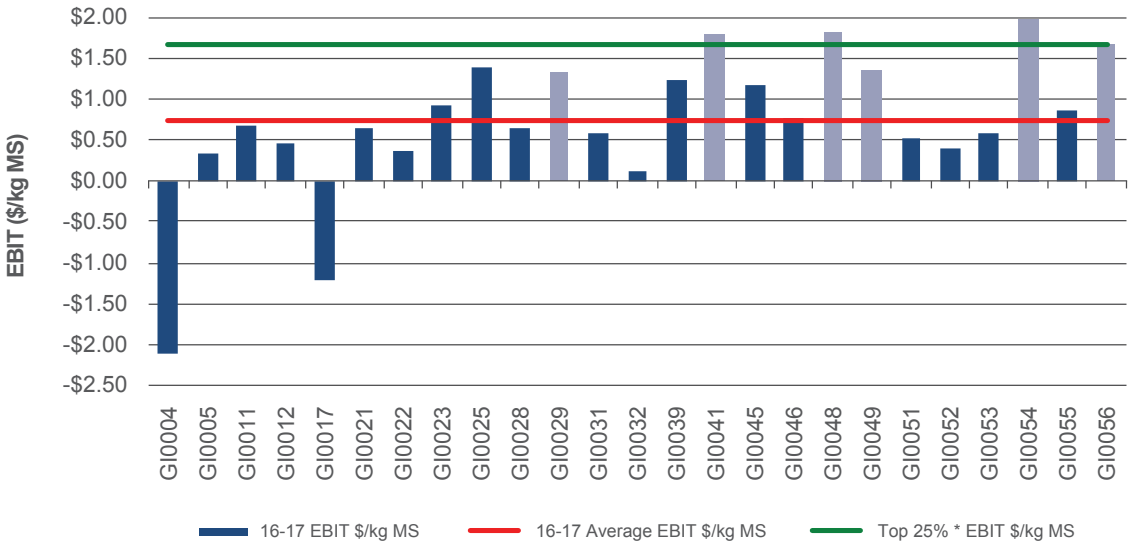
The economic performance of Gippsland farms improved from last year with 23 of the 25 participants recording a positive EBIT compared to only 16 of 25 participants last year.

As seen in Figure 39, average EBIT has doubled from last year to $0.73/kg MS, still well behind the performance in 2013-14 and 2014-15. The top 25% recorded a 33% increase in EBIT to $1.65/kg MS.

The largest impact on Gippsland profitability was the lower milk price. Despite large reductions in costs this year, this performance would not have been possible if it were not for the favourable pasture growing conditions, reduction in fodder purchases and lower concentrate prices. The lower performance of Gippsland farms was still better than last year but farmers were reliant on careful cost management and increased borrowings.

Cost reductions across most Gippsland farms occurred across all categories resulting in a more positive performance in 2016-17 than was experienced in 2015-16.

FIGURE 39. WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER KILOGRAM OF MILK SOLIDS – GIPPSLAND



Return on assets and equity

Return on assets is the earnings before interest and tax expressed as a percentage of total assets. It is an indicator of the earning power of total assets managed, irrespective of capital structure.

The variation between farms' return on assets is indicative of the variation between farms' EBIT, except where those farms with a similar EBIT manage total assets of a different value. These results are a reflection of the total economic result on the farm.

The variation in the valuation of the total assets managed is reflected in the return on assets.

In 2016-17 Gippsland, participant farms returned an average 2.3% positive return on assets. For 23 of the 25 participant farms the return on assets was positive with the range for all Gippsland participants between negative 6.1% and 6.6% as shown in Figure 39, a much greater variation on last year. The top 25% return on assets was 5.5% compared to 4.2% last year, not yet recovering to the 2014-15 returns of 8.8% for this group.

Return on equity is the net farm income (EBIT less interest and lease payments) expressed as a percentage of the owner's equity. It is a measure of the owner's rate of return on investment.

A return on assets becomes a lesser return on equity when the rate of interest on loans or lease on leased capital is greater than the return from the additional assets managed. A negative return on equity will result when total interest and lease payments exceed the EBIT. 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.

Only 52% (13 out of 25) of the Gippsland farms returned a positive return on equity in 2016-17, performing not much improvement from 40% with positive return on equity in 2015-16 (Figure 41).

The average return on equity was 0.7% with a range of between negative 20% and 14.0%. Last year the return on equity was negative 2.3% and prior to that in 2014-15 was 4.7%.

The top 25% group achieved 6.7% return on equity in 2016-17, compared to last year when this group recorded an average of 4.1%.

Interest and lease costs remained similar again this year on average at $0.68/kg MS, with the top 25 % group averaging $0.50/kg MS for interest and lease costs, remaining relatively unchanged from last year as well. Average capital values can be seen in Appendix D8.

FIGURE 40. RETURN ON ASSETS – GIPPSLAND

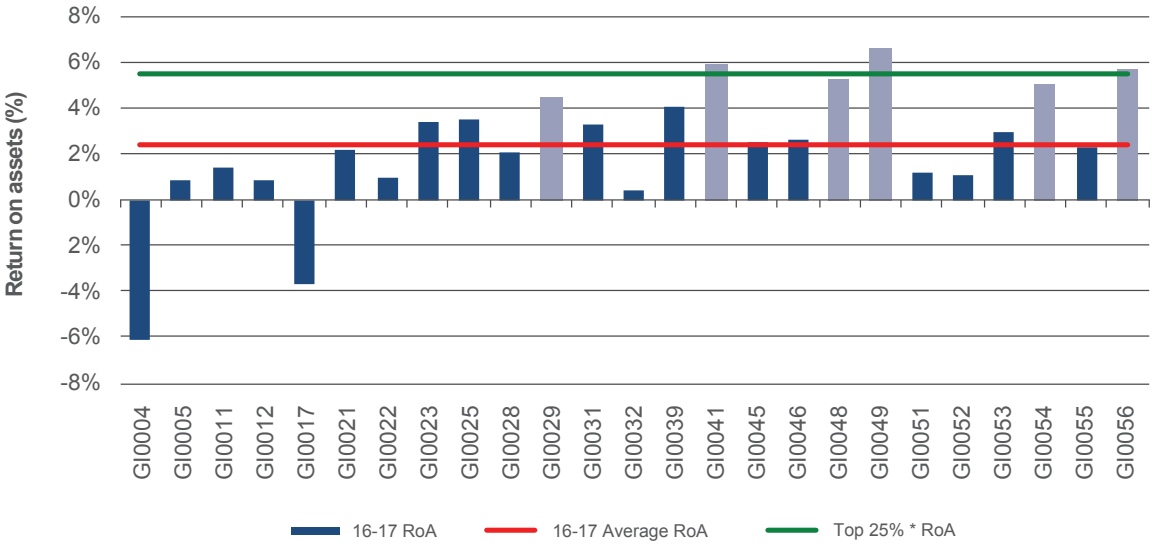
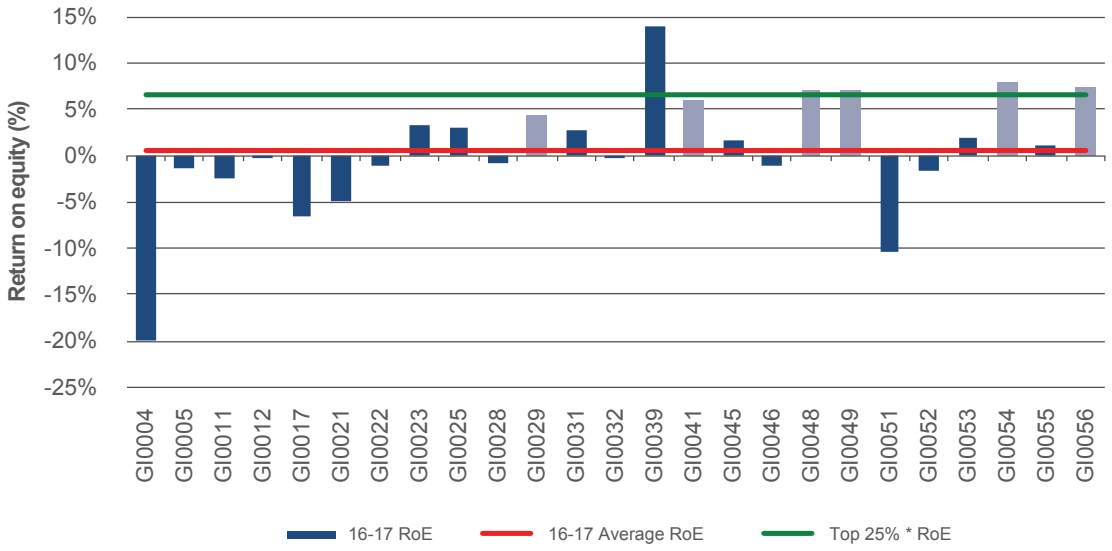


FIGURE 41. RETURN ON EQUITY – GIPPSLAND



Feed consumption and fertiliser

In 2016-17 Gippsland dairy farming systems were predominantly pasture based, with 20 farms sourcing at least half their energy requirement as grazed pasture due to the improved seasonal conditions.

Pasture consumption is calculated as the gap between the total metabolisable energy (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 can be in Appendix E.

It should be noted that the pasture consumption data in 2016-17 is calculated through DairyBase, not the previously used DEDJTR pasture calculations so may not be directly comparable, but is reasonably similar.

In Gippsland, directly grazed pasture improved from last year with farms providing an average of 59% of ME consumed, compared to 53% last year. Total home grown feed (pasture and conserved feed) as a percentage of ME consumed improved to 70% compared to 59% last year, and 66% in 2014-15. These improvements in home grown feed consumption provide further evidence to the economic performance in reduced imported feed costs this year.

As seen in Figure 42, concentrates provided the next greatest ME source averaging 28% of ME consumed, reducing the reliance on concentrates this year from 31% of energy sourced via concentrates last year.

The top 25% performers had a lower reliance on energy sourced from concentrates, sourcing only 24% from this source, and 61% of energy sourced from directly grazed pasture.

'Other' feed included sources include those feedstuffs that are not common or generally available to dairy farmers on the common market, such as almond hulls and citrus pulp. Figure 42 shows the composition in sourced energy types for each farm.

FIGURE 42. SOURCES OF WHOLE FARM METABOLISABLE ENERGY – GIPPSLAND

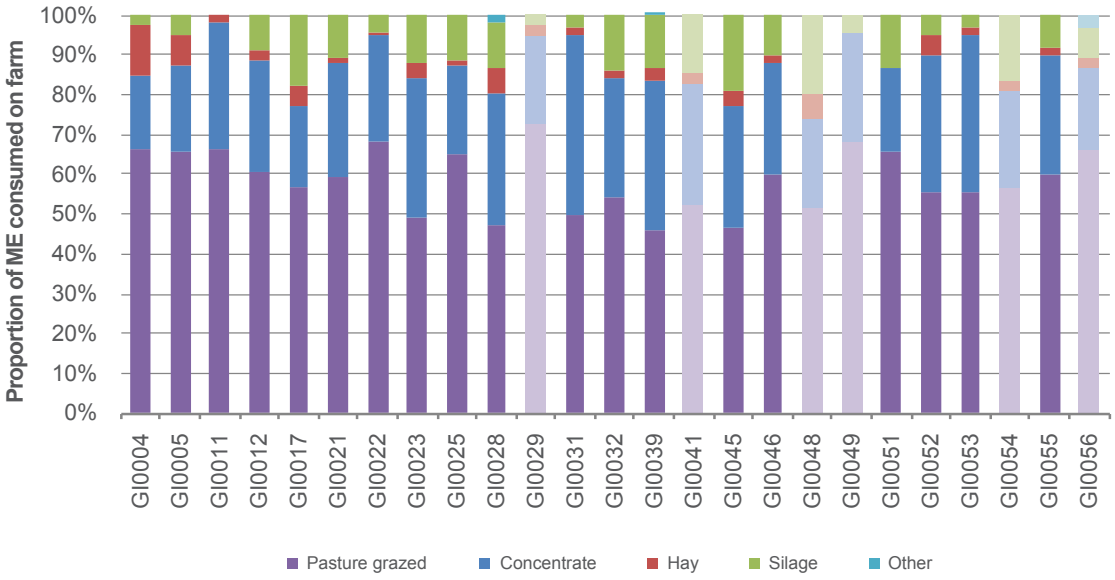
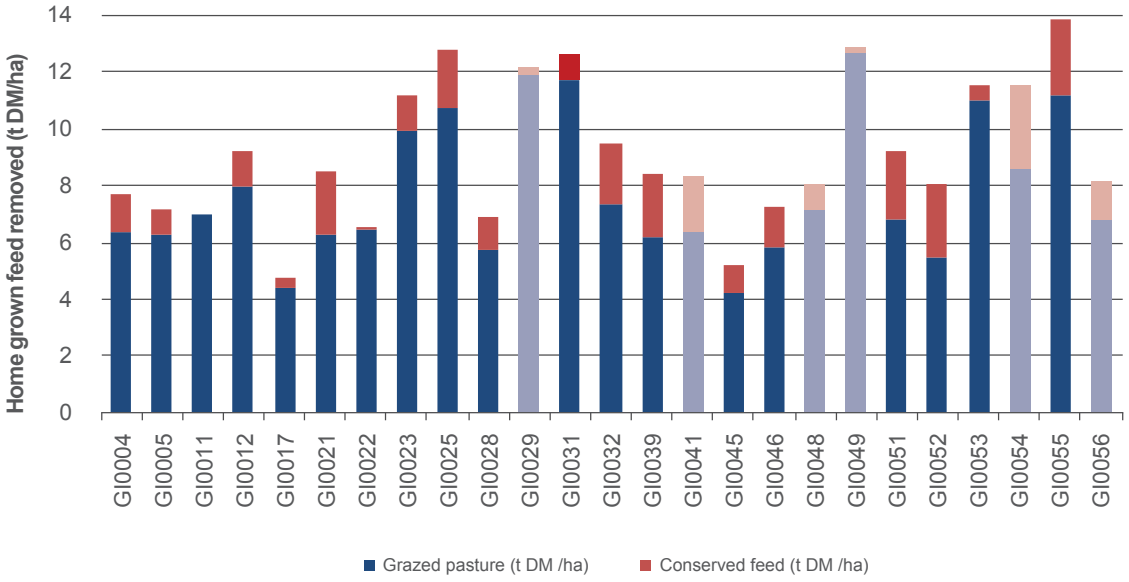


Figure 43 shows the estimated tonnes of dry matter of home grown feed consumed per milking hectare. Home grown feed can be grazed pasture (shown by the bottom blue bars) and conserved fodder (shown by the upper red bars). Total home grown feed consumed ranged from 4.2 t DM/ha up to 12.7 t DM/ha. The average home grown feed consumed per milking hectare was 9.2 t DM/ha compared to the average last year of 7.9 t DM/ha. The top 25% of farms averaged 10.2 t DM/ha, the same as last year.

The quantity of directly grazed pasture consumed was on average 7.8 t DM/ha an improvement of 13% from 6.9 t DM/ha in 2015-16. The quantity of conserved feed was much improved from 1.0 t DM/ha last year, to 1.4 t DM/ha in 2016-17. There was a positive feed inventory gain on average for Gippsland farms at the end of the financial year. Only one farm did not conserve any feed on the milking area in 2016-17.

It should be noted that there can be a number of sources of error in the method used to calculate home pasture consumption including incorrect estimation of liveweight, amounts of fodder and concentrates fed, ME concentration of fodder and concentrate, ME concentration of 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 due to errors in each farm's estimate and it is best to compare pasture consumption on the same farm over time using the same method of estimation. Noting the pasture consumption calculation was different this year caution should be taken when directly comparing results between 2015-16 and 2016-17.

FIGURE 43. ESTIMATED TONNES OF HOME GROWN FEED PRODUCED PER MILKING HECTARE – GIPPSLAND

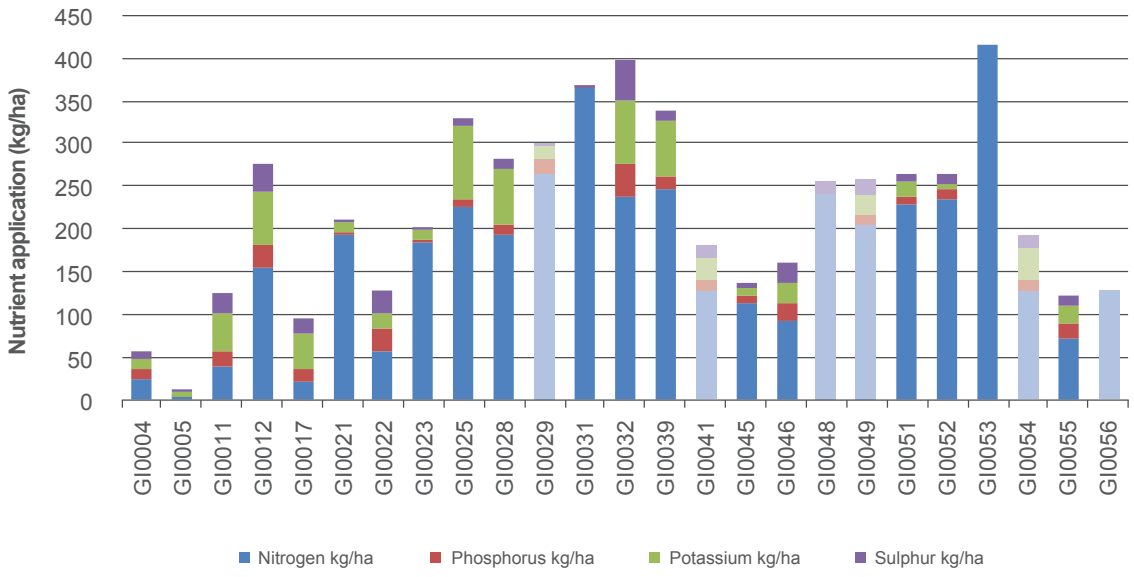


Fertiliser application

Farms in Gippsland used a wide range of fertilisers and fertiliser application rates, both between farms and with the mix of key macronutrients on individual farms (Figure 44). A small increase in nitrogen was seen this year with an average use of 168 kg/ha and a large range applied varying from 3kg/ha up to 415 kg/ha on the usable area. Much lower amounts of phosphorus (12 kg/ha compared to 21 kg/ha last year) and potassium (27kg/ha compared to 36 kg/ha last year) were applied per hectare compared to last year. The top 25% of businesses applied much less nitrogen; 183 kg/ha, phosphorus (9kg/ha compared to last year's 26 kg/ha) and about half the potassium (17 kg/ha) but similar amounts of sulphur to the average.

The values for Figures 43 and 44 can be found in Appendix Table D2.

FIGURE 44. NUTRIENT APPLICATION PER HECTARE (USABLE AREA) – GIPPSLAND



Greenhouse gas emissions

Participant farms in Gippsland emitted an average of 15 t CO_2-e/t MS in 2016-17 which was higher than 14.1 t CO_2-e/t MS in 2015-16.

Methane was the main greenhouse gas emitted from participant farms in Gippsland accounting for 10.3 t CO_2-e/t MS, 69% of the average total greenhouse emissions. Methane produced from ruminant digestion contributed 9.0 t CO_2-e/t MS to regional average emission while methane from effluent ponds accounted for 1.3 t CO_2-e/t MS (Figure 45).

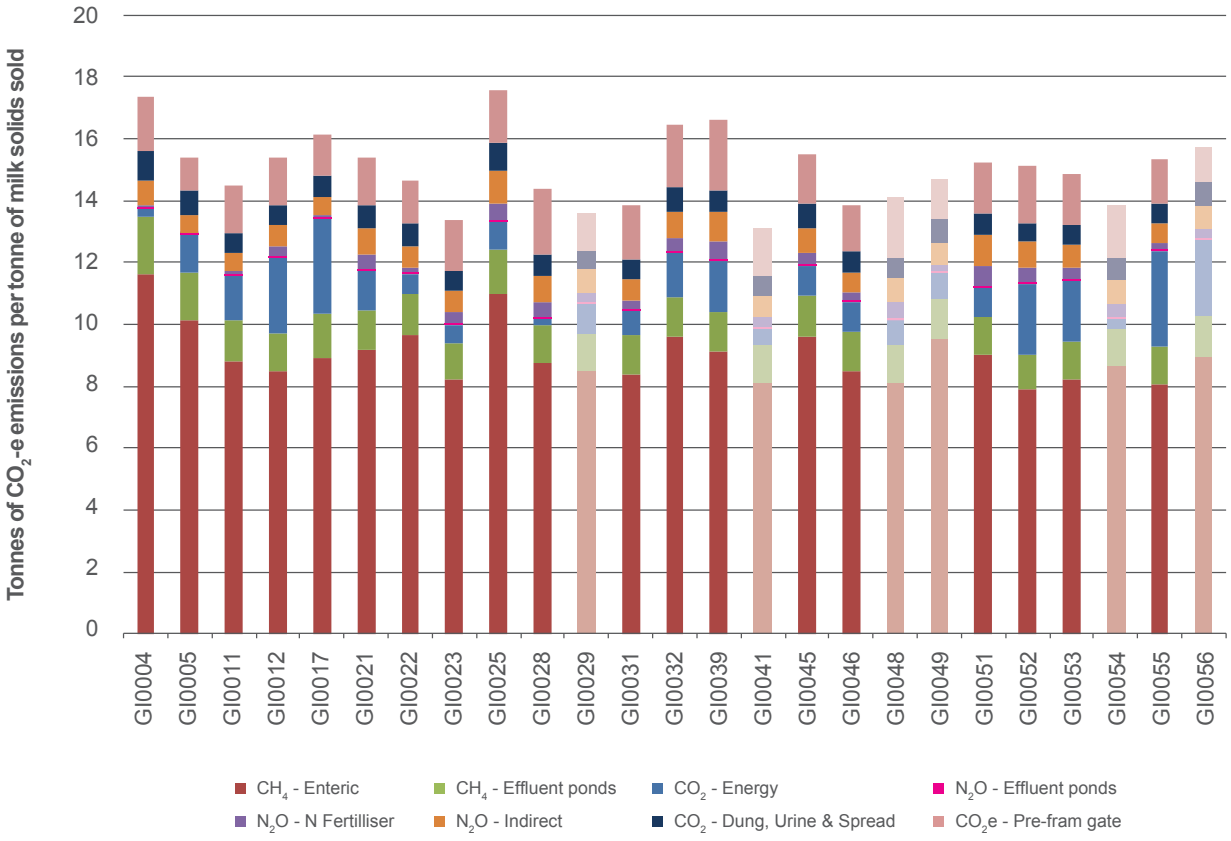
Carbon dioxide accounted for 2.9 t CO_2-e/t MS, 19% of emissions in 2016-17 comprising of 1.3 t CO_2-e/t MS from fossil fuel and 1.6 t CO_2-e/t MS from pre-farm gate sources.

Nitrous oxide with recorded emission of 1.8 t CO_2-e/t MS was 12% of all emissions. Direct emissions from applied nitrogen fertiliser, effluent management systems and animal wastes accounted for 1.0 t CO_2-e/t MS. The balance of 0.8 t CO_2-e/t MS came from ammonia and nitrate loss in soils as indirect sources.

The top 25% of farms had a lower emission, an average emission of 14.6 t CO_2-e/t MS. The emissions came from methane (10.3 t CO_2-e/t MS); carbon dioxide (3.0 t CO_2-e/t MS) and nitrous oxide (1.8 t CO_2-e/t MS).

The data demonstrate that farms can achieve efficiency and reduce their GHG footprint.

FIGURE 45. GREENHOUSE GAS EMISSIONS – GIPPSLAND



Part Five: **Business confidence survey**

Expectations and issues

Responses to this business confidence survey were made in July and August 2017 with regard to the 2017-18 financial year and the next five years to 2021-22.

Expectations for business returns

Following another challenging season, expectations for the 2017-18 season were optimistic with majority of farmers predicting an improvement in farm business returns. Sixty-seven farmers (89%) predicted their business returns will improve and eight farmers (11%) expected no change or their business returns will deteriorate in 2017-18. This is notably different to the less optimistic expectations recorded in 2015-16.

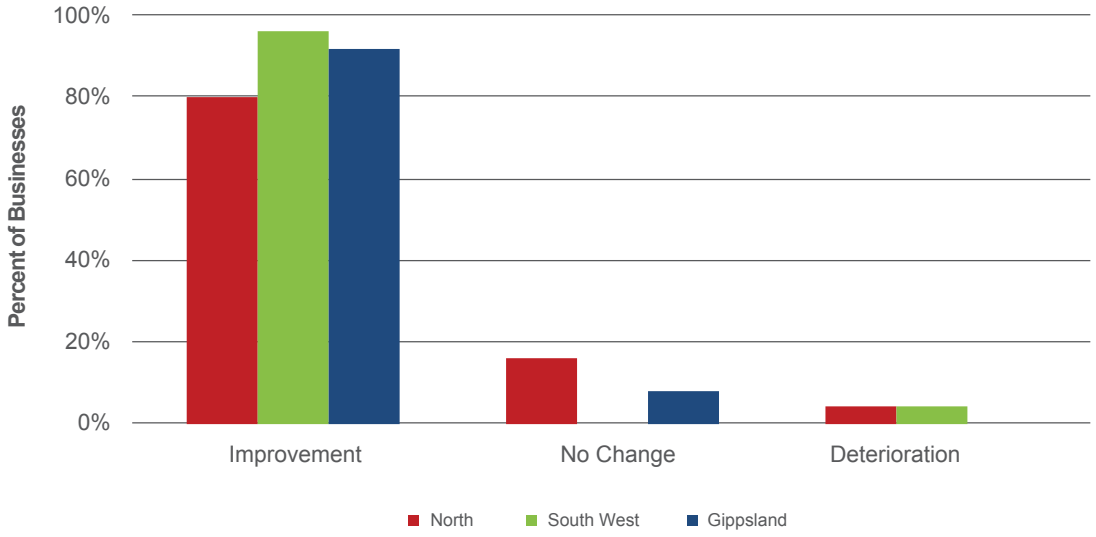
Responses to the survey were made with consideration to all aspects of farming, including climate and market conditions for all products bought and sold. While expectations of the coming year were generally positive there were slight regional differences.

Participants in the South West were more optimistic than farmers in the other regions with 96% expecting an improvement to their farm business returns in 2017-18 (Figure 46). 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 in the North and Gippsland who did not expect any change in their business returns in 2017-18. Similar number of farmers in the North and South West expected deterioration to their farm business returns.

A few farmers commented they had positive outlook for 2017-18 because they either had secured water, had a reasonable milk contract, had things under control or felt they could turn around their business as they have young herd coming in.

FIGURE 46. EXPECTED CHANGE TO FARM BUSINESS RETURNS IN 2017-18

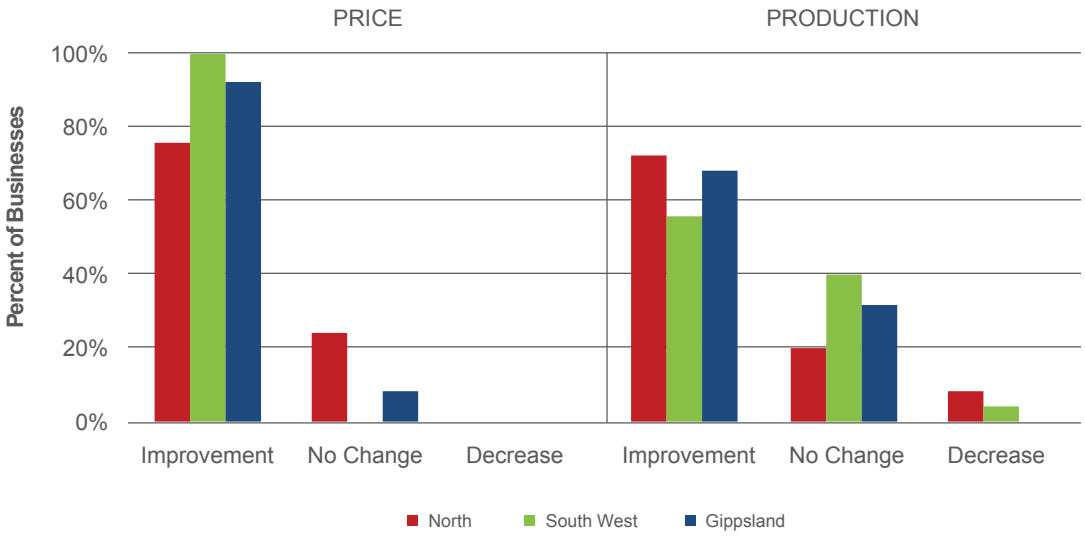


Price and production expectations - milk

The majority of the participant farmers across the state were expecting their milk price to increase for the 2017-18 year (Figure 47). Farmers in Gippsland received the lowest milk price in 2016-17 among the three regions and 92% participants expected their milk price to increase in the coming year. On the other hand, farmers in the South West received the highest milk for the state and all participants expected their milk price to increase in 2017-18.

More than 60% of the participants across the state indicated that they will increase their milk production in 2017-18. More farmers in the North 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.

FIGURE 47. PRODUCER EXPECTATIONS OF PRICES AND PRODUCTION OF MILK IN 2017-18



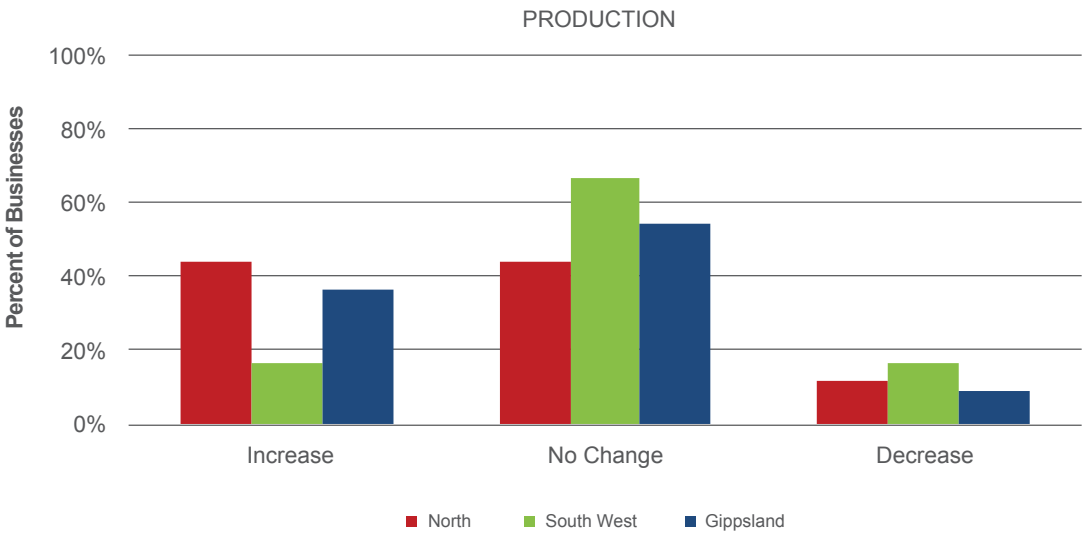
Production expectations - fodder

The question of farmers' expectations of fodder price was not asked in this year's survey.

Four farmers did not provide answers to the question regarding expectations of fodder production. Of the 71 responses across the state, 64% indicated that they expected fodder production to increase in the coming year and more than quarter expected no change to how much feed would be conserved on farm. Only nine farmers reported that fodder production was expected to decrease on their farms in 2017-18 (Figure 48).

Many participants were concerned about seasonal variability in the coming year and August to October rainfall is likely to be below average. This influenced the cautious outlook of participants to increase or maintain fodder production.

FIGURE 48. PRODUCER EXPECTATIONS OF PRODUCTION OF FODDER IN 2017-18



Cost expectations

Data presented in Figure 49 details the expectations of costs for the dairy industry from 75 participant farms in the project.

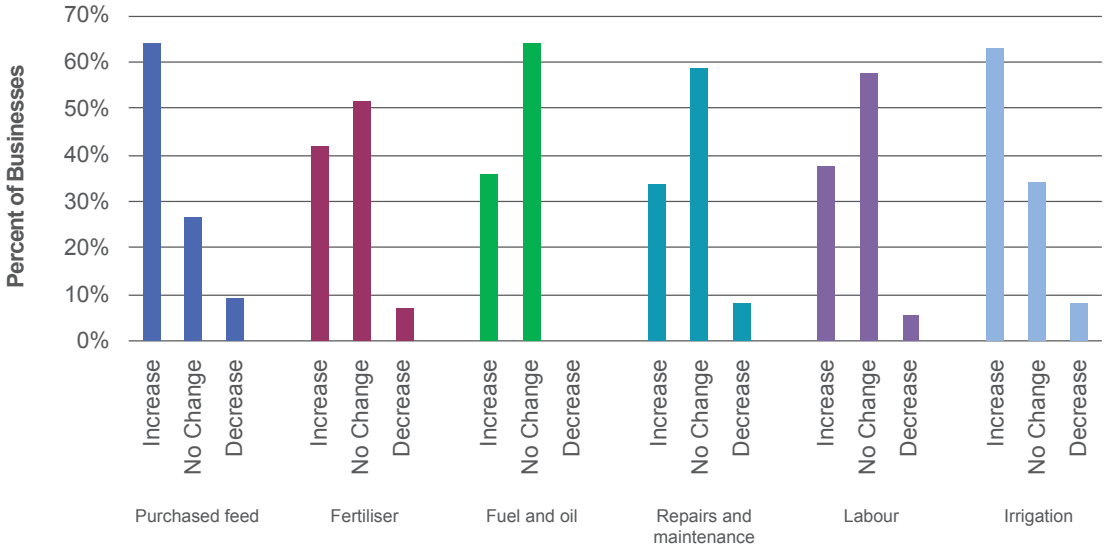
The majority of farms expected input costs in all categories to increase or remain unchanged. Over 60% of the farmers across the state were expecting the cost of purchased feed to increase. About a third of participants expected the costs of fuel and oil, repairs and maintenance and labour to increase. More than two in five participants predicted an increase in fuel and oil costs for their farm.

Half of the participants expected their expenses on fertilisers to remain unchanged in line with their expectation of maintaining or reducing their fodder production.

Labour was a major issue in some farms, however, 57% of the participants predicted no change to their labour cost in 2017-18.

Among the irrigators, 63% predicted an increase and 34% no change to irrigation costs to their business for the coming year.

FIGURE 49. PRODUCER EXPECTATIONS OF COSTS FOR THE DAIRY INDUSTRY IN 2017-18



**Only includes responses from 39 farms with irrigation*

Major issues in the dairy industry - The next 12 months

The participants were asked if any of the seven issues was a major issue or not important in the 2017-18.

Figure 50 shows that milk price was the top major issue facing the participant farmers in the state. With the higher than average rainfall in winter and spring in 2016 but predicted lower than long term average rainfall from August to October 2017, farmers were concerned about the climate/seasonal conditions. Input costs and pasture/fodder issues received the same proportion of the responses. Water and labour received equal proportion of responses and the least of the major concerns in the next 12 months was succession planning.

Other issues raised were debt reduction, expansion options and irrigation development, processor issues, government regulation and world market for dairy products, mental health and work-life balance; sharefarming arrangement, reliability and price of power, herd management, and milk quality.

In all regions, milk price was the dominant concern raised by farmers. In Gippsland and South West, the three top major concerns were milk price, climate/seasonal conditions and pasture/fodder. Farmers in the North were also concerned about milk price and climate/seasonal conditions. The other major issue for the farmers in the North was input costs and water.

Major issues in the dairy industry - The next five years

The participants identified key issues for their business over the next five years (Figure 51).

The ranking of the top three major concerns in the next five years was similar to those in the next 12 months. Milk price was identified as the leading issue for farmers in the state as had been the leading issue in previous years. It was followed by climate/seasonal conditions, input costs, pasture/fodder, water, succession planning and labour.

Farmers were also concerned about certainty of milk price and its impact on their ability to plan and/or implement their expansion plans. This raised the issue of balancing risk versus expansion and growth.
Other concerns were debt management and improving equity, reliability and price of power, retirement and exit strategy, bio-security; government regulations and Murray Darling Basin Plan, irrigation development and sharefarming arrangements.

The top three major issues in Gippsland and North were the same: milk price, climate/seasonal conditions, and input costs. In Gippsland the fourth major issue was succession planning and water in the North. In the South West, the top four major concerns received equal proportion of responses: milk, input costs, climate/seasonal conditions and pasture/fodder issues.

FIGURE 50. MAJOR ISSUES FOR INDIVIDUAL BUSINESSES – 12 MONTH OUTLOOK

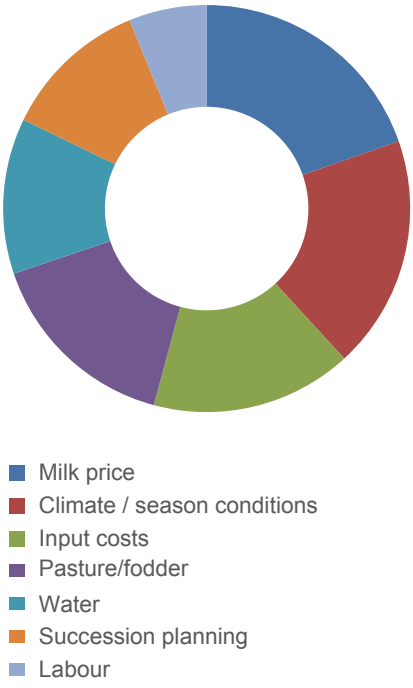
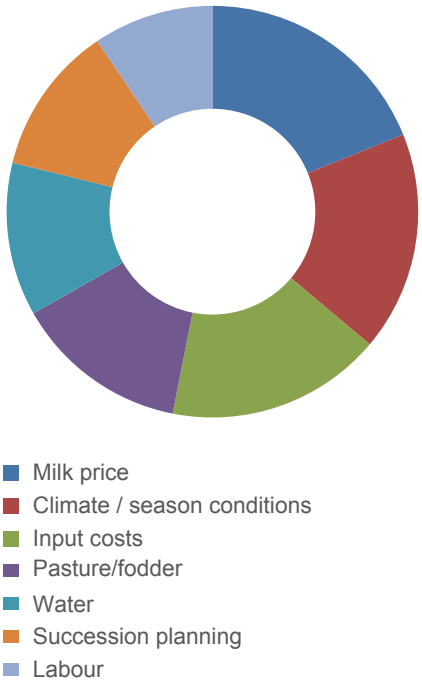


FIGURE 51. MAJOR ISSUES FOR INDIVIDUAL BUSINESSES – 5 YEAR OUTLOOK



Part Six:
Greenhouse gas emissions

2016-17 Greenhouse gas emissions

The average level of emission from participating farms was 15.1 t of carbon dioxide equivalents per tonne of milk solids in 2016-17. This was higher than 13.7 t CO_2-e/t MS recorded in 2015-16 due to doubling of the average number of young stock per farm and 39% increase in applied nitrogen per kg MS.

Carbon dioxide equivalents (CO_2-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 of the data in this section is in CO_2-e tonnes and expressed per tonne of milk solids produced (CO_2-e/t MS).

In 2016 the method of estimating Australia's dairy industry greenhouse gas emissions (NGGI) altered to reflect new research outcomes and align with international guidelines. The GWP for the three gases that are discussed in this report have altered to 1: 25: 298 (CO_2: CH_4: N_2O). Other changes were decreasing the proportion of waste (dung and urine) deposited onto pastures while the milking herd graze and changes to the emission factors for N_2O emissions from nitrogen fertiliser and animal waste. In addition, the estimation of greenhouse gas emissions now include a pre-farm gate emission source. These are the greenhouse gases emitted with the manufacturing of fertilisers and the production of purchased fodder, grain and concentrates.

The distribution of different emissions for 2016-17 is shown in Figure 52. Greenhouse gas emissions per tonne of milk solids produced ranged from 12.0 t CO_2-e/t MS to 19.0 t CO_2-e/t MS with an average emission level of 15.1 CO_2-e/t MS.

Methane was identified as the main greenhouse gas emitted from dairy farms, accounting for 10.3 t CO_2-e/t MS, 68% of all greenhouse emissions. Methane produced from ruminant digestion (enteric CH_4) was the major source of emissions from all farms in this report, with an average of 59% of total emissions. Methane from effluent ponds accounted for 9% of total emissions on average across the state in 2016-17.

The most efficient strategy to reduce enteric CH_4 production is manipulating the diet by increasing the feed quality through improved pastures or supplementation with particular concentrates and fat supplements. However, it is recommended that fats should not constitute more than 6-7% of the dietary dry matter intake.

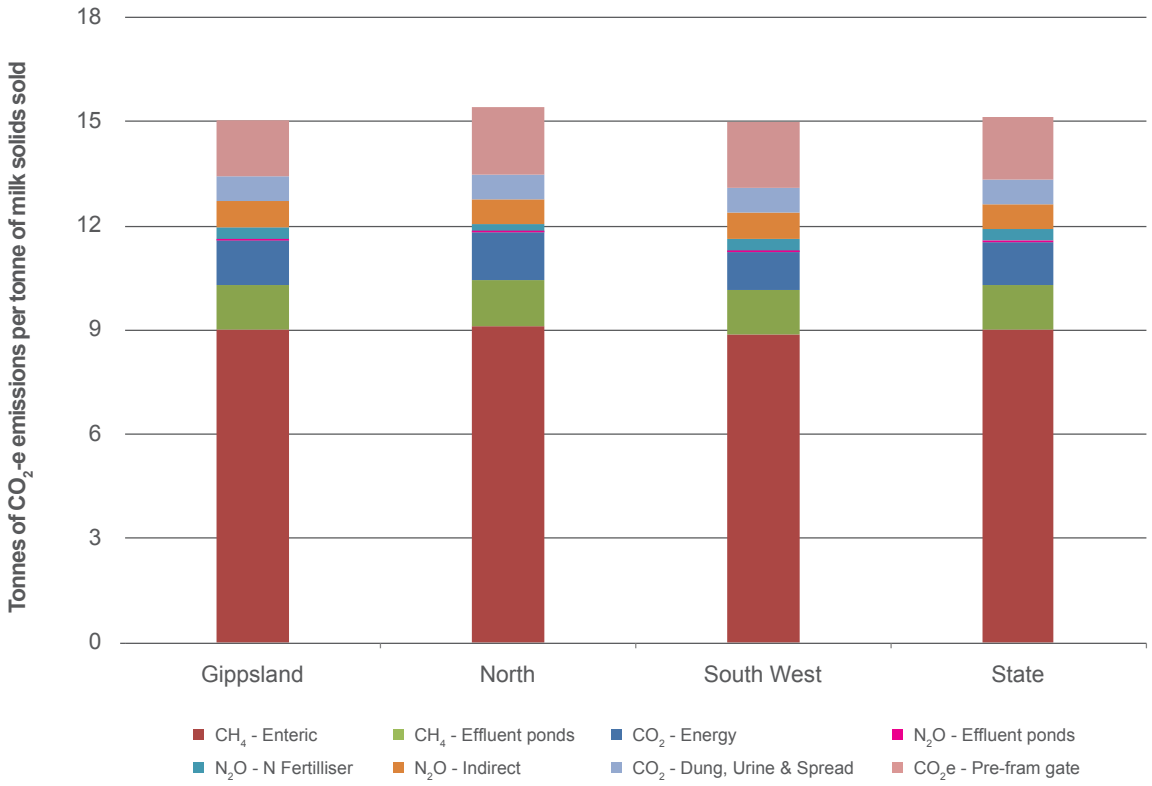
The second main greenhouse gas emission was CO_2 produced primarily from fossil fuel consumption as either electricity or petrochemicals. Carbon dioxide accounted for 3.1 t CO_2-e/t MS, 20% of emissions in 2016-17. Pre-farm gate sources accounted for 12% of the emissions from pre-farm gates sources and 8% 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 source their electricity from renewable sources. Pre-farm gate CO_2 emission was lower than last year due to lower average purchased feed per kg MS, although there was an increase in the application per kg MS of lime and fertiliser except potassium.

The third main greenhouse gas was nitrous oxide (N_2O) with recorded emission of 1.5 t CO_2-e/t MS, 12% of all emissions and up 8% from last year. Substantial increase in the number of heifers per farm contributed to the elevated N_2O emission from animal excreta. Nitrous oxide emissions from fertiliser accounted for 2% of total emissions, effluent ponds accounted for 0.1% and excreta accounted for 5%. Nitrous oxide from indirect emissions was 5%. Nitrous oxide emissions 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 N_2O. Strategic fertiliser management practices can reduce N_2O emissions and improve nitrogen efficiency.

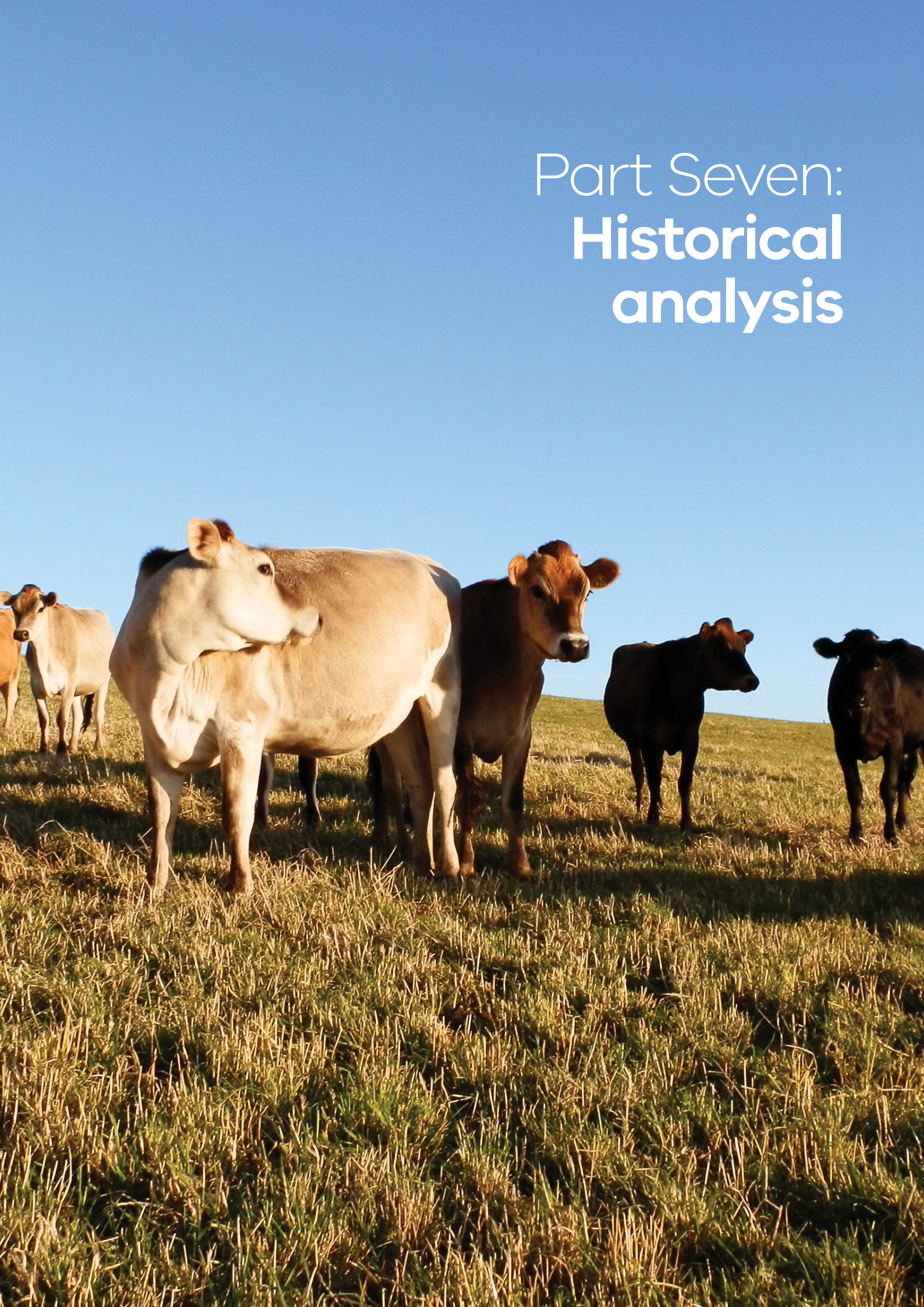
The top 25% of farms had lower emissions, an average emission of 14.5 t CO_2-e/t MS. The emissions came from methane (10.0 t CO_2-e/t MS); carbon dioxide (2.7 t CO_2-e/t MS) and nitrous oxide (1.8 t CO_2-e/t MS). The data demonstrate that farms can achieve efficiency and reduce their GHG footprint.

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 52. 2016-17 GREENHOUSE GAS EMISSIONS - STATEWIDE



Part Seven: **Historical analysis**



Historical analysis

The dollar values are adjusted to allow comparison between year, however, some farms do not participate each year and care needs to be taken when comparing performance across years.

In Victoria, 2016-17 was characterised by record low milk prices and above average rainfall. In each region business performance improved from 2015-16 but remained well below the most profitable of the 11 years of the project.

The North

In 2016-17 farm profit performance improved from 2015-16, however average return on assets was the fourth lowest recorded in the DFMP Northern Victorian dataset, similar to those recorded in 2009-10. Figures 53 and 54 show that 2016-17 levelled out an almost linear decline in profit performance seen in the region since 2013-14. Average EBIT and net farm income improved from 2015-16 but were the fifth lowest recorded in the region.

The difference between EBIT and net income is interest and lease costs. In 2015-16 interest and lease cost reached $85,972/farm the lowest average (in real terms) recorded in the project. However in 2016-17, Northern Victorian interest and lease costs rose to $108,327/farm the second highest recorded in the region in 11 years of the project. This was due to a significant increase in average farm debt and the amount of leased land per farm in 12 months between 2015-16 and 2016-17.

Average milk price received in the North was $5.13 kg MS, declining for the second year in a row and was the lowest annual milk price (in real terms) recorded in the North for 11 years of the project. The second lowest milk price received by Northern Victorian farmers was in 2009-10.

In 2016-17 the average return on assets rose to 1.0% after being negative in 2015-16. The average return on equity was negative 2.0% which was the second consecutive negative year and the sixth year that a negative return on equity was recorded in the region. The 11-year average for return on assets in the North was 4.1% and return on equity was 2.1%.

FIGURE 53. HISTORICAL FARM PROFITABILITY (REAL $) – NORTH

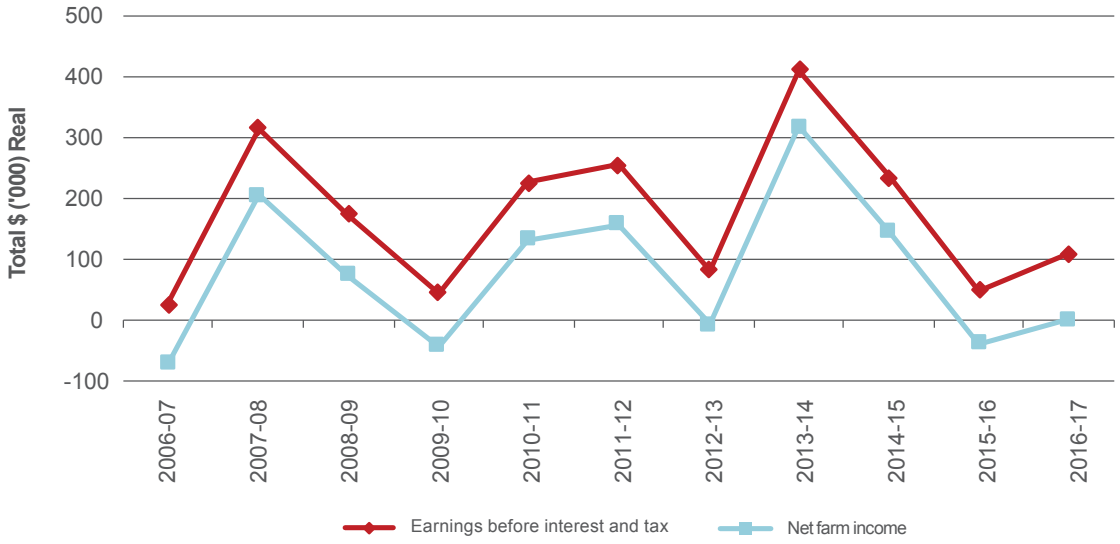
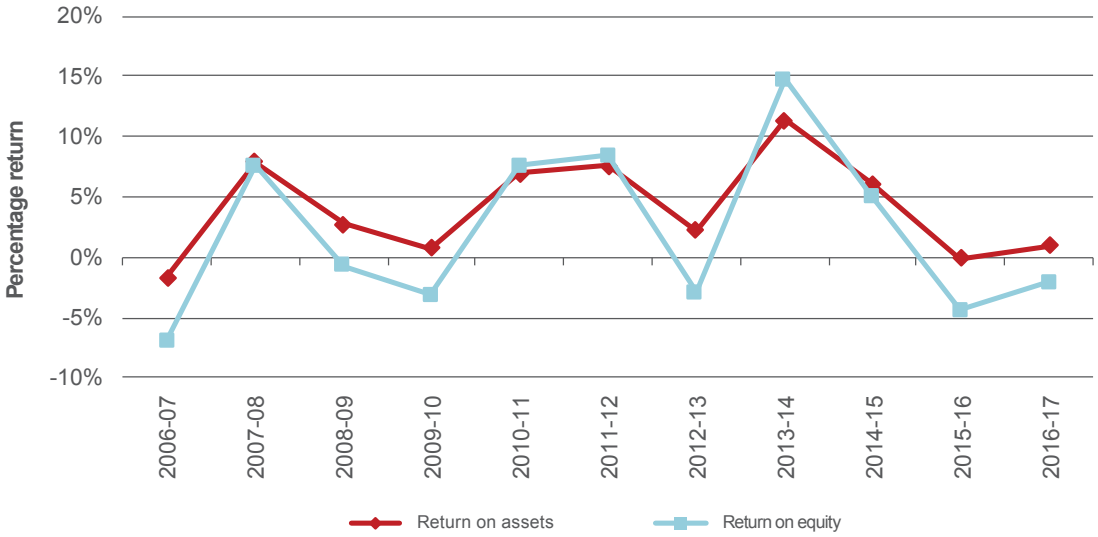


FIGURE 54. HISTORICAL WHOLE FARM PERFORMANCE – NORTH



The South West

South West farm profit performance rebounded in 2016-17. Above average annual rainfall for the majority of participants significantly improved pasture production from 2015-16. As a result of more feed on hand, farms were able to build up their fodder reserves and rely less on purchased feed than the previous year. Although seasonal conditions were good, milk price dropped to $5.25/kg MS. This is lowest annual milk price (in real terms) recorded in the South West in 11 years of the project and was similar to (but less than) the average price received by South West farms in 2009-10.

Interest and lease costs 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 2016-17 reached an average $142,057 per farm (real terms), the lowest recorded for the region in the history of the project (Figure 55). South West farms spent the highest amount on interest and lease costs in Victoria. This is due to the higher amount of total liabilities, larger farm size and higher value asset base. In 2016-17 average total farm debt in the South West increased from 2015-16 levels.

In 2016-17 average return on assets was 4.2% (Figure 56). This was an improvement on the previous year and similar to the 11-year regional average of 4.2%. Return on equity in 2016-17 was 4.2% a rise seven percentage points from 2015-16 and above the 11-year average of 2.5%.

FIGURE 55. HISTORICAL FARM PROFITABILITY (REAL $) – SOUTH WEST

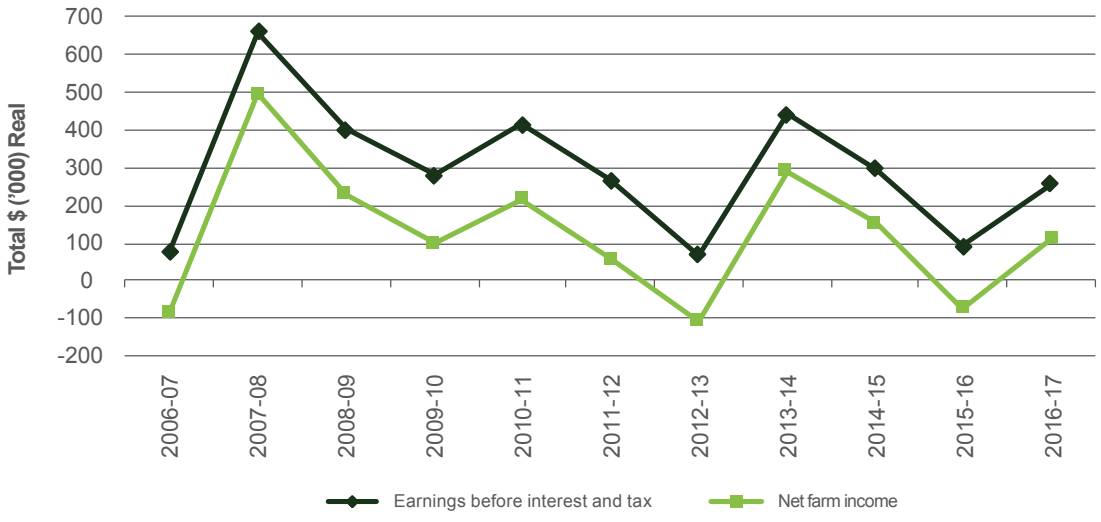
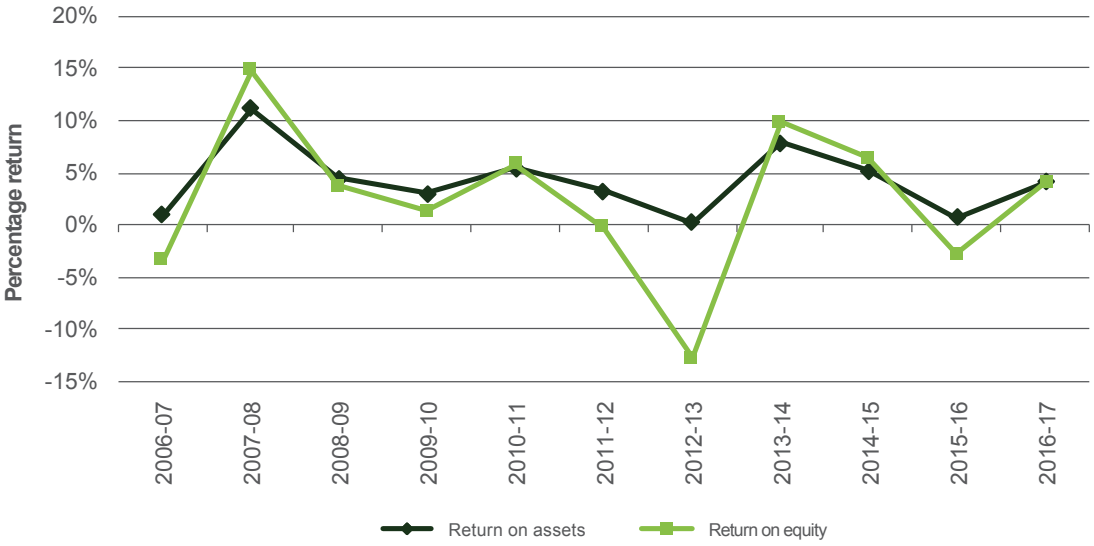


FIGURE 56. HISTORICAL WHOLE FARM PERFORMANCE – SOUTH WEST



Gippsland

Gippsland farm profit performance improved in 2016-17 but farm businesses were challenged by an annual average milk price of $4.84/ kg MS, the lowest average annual milk price (real terms) recorded in Victoria in 11 years of the DFMP project. 2009-10 was the second lowest average milk price (real terms) received by Gippsland farmers.

The average net farm income rose from being negative in 2015-16 to $35,068 in 2016-17. The rise in net farm income was the result of continued high cattle saleyard prices and good seasonal conditions allowing an increase in on-farm pasture production and a reduction on the amount spent purchased feed costs. Average net farm income and EBIT recorded in 2016-17 were similar to those recorded in 2009-10 (Figure 57).

The average amount spent on interest and lease costs increased to $93,891 in 2016-17 from 2015-16 levels, but remained the regions third lowest recorded in 11 years. The increase in farm debt in the previous financial year (2015-16) resulted in an increase in debt servicing (interest costs) in 2016-17.

Despite the poor milk price, return on assets and return on equity also showed improvements in 2016-17 rising to 2.3% and 0.7% respectively (Figure 58). Again, these results were similar to the 2009-10 season and were the fourth lowest recorded in the region for return on assets and return on equity and below the Gippsland long term average for return on assets (3.8%) and return on equity (3.5%).

FIGURE 57. HISTORICAL FARM PROFITABILITY (REAL $) – GIPPSLAND

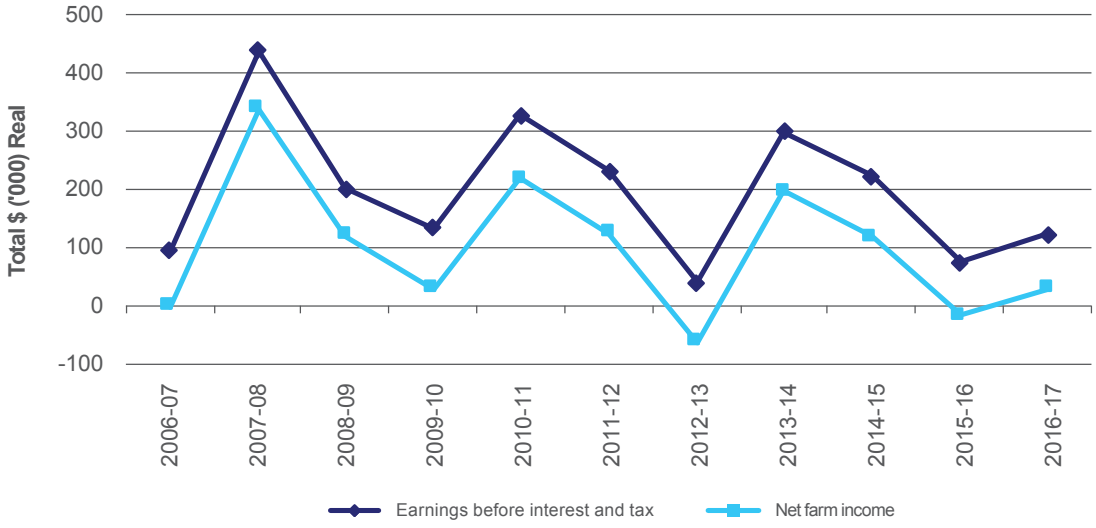
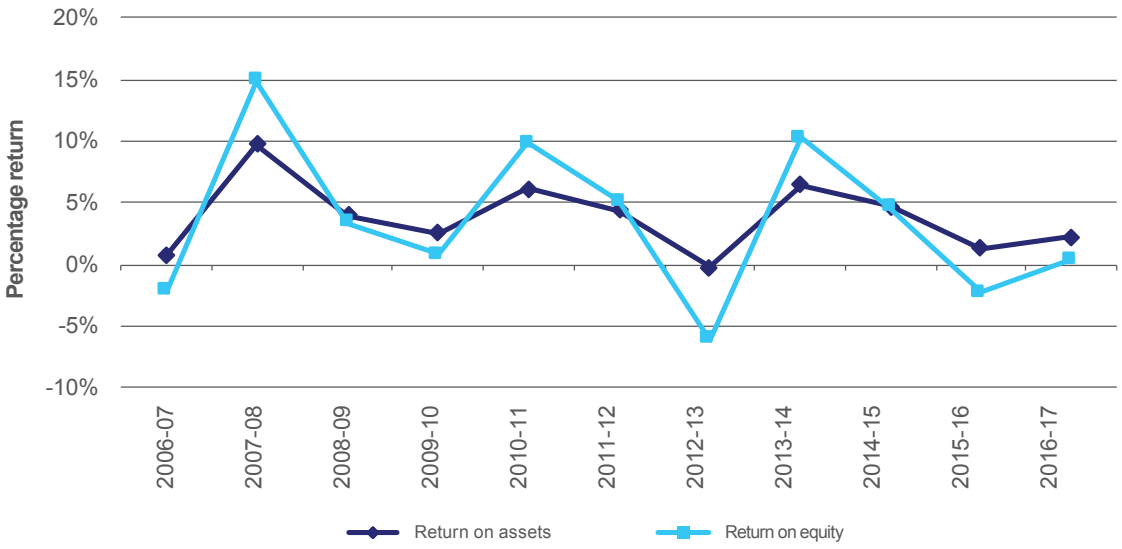


FIGURE 58. HISTORICAL WHOLE FARM PERFORMANCE – GIPPSLAND



Regional comparison

Record low milk prices in all three regions put pressure on 2016-17 farm profit margins. Despite this, farm business performance improved slightly across the state, with each region increasing average performance measures from the previous year (Figures 59 to 62). This was achieved because of above average rainfall and the lower value of feed inputs allowed farmers to cut input costs, predominantly feed costs, to offset the low milk price. Regional results from 2016-17 can be most closely compared to those recorded in 2009-10. In 2009-10 milk prices were low because of the impact of the 2008-09 global financial crisis but seasonal conditions and irrigation allocations were good across the state allowing farmers to decrease their overall cost of production.

In 2016-17, farms in the North recorded the lowest values for the three regions in each of the profit performance measures. However, Gippsland received the lowest average milk price for 2016-17 which was also the lowest (real terms) recorded in all regions in the 11 years of the project. The impact of the low milk price in Gippsland was reflected in the region having the smallest improvements in EBIT and return on assets in 2016-17.

In 2016-17, the South West received a 9% and 2% better milk price than Gippsland and the North, respectively. The slightly higher milk price, cuts to purchased feed costs and the largest average feed inventory value resulted in the South West recording the highest performance measures for Victoria in 2016-17.

Interest and lease costs increased in Gippsland and the North, but decreased in the South West. Northern farms paid record low amounts in interest and lease costs in 2015-16, however in 2016-17 saw the largest rise in interest and lease costs in Victoria, increasing to the second highest levels recorded in the North in 11 years of the project. This increase in the North was due to a significant upsurge in both regional average farm debt and total amount of leased land per farm. Gippsland and the South West also recorded increases in average farm debt, however Gippsland had only a small rise in leased land amounts and there was a decrease in amount of land leased by farms in the South West. Average farm equity percentages dropped across all regions as a consequence of increases in average farm debt recorded in 2016-17.

FIGURE 59. REGIONAL HISTORICAL EARNINGS BEFORE INTEREST AND TAX (REAL $)

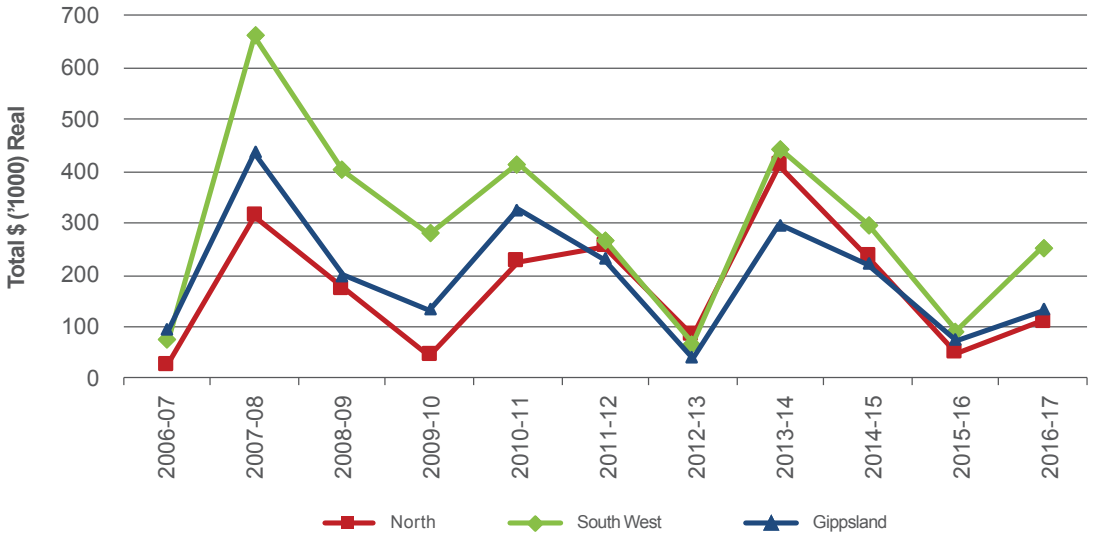


FIGURE 60. REGIONAL HISTORICAL NET FARM INCOME (REAL $)

FIGURE 61. REGIONAL HISTORICAL RETURN ON ASSETS

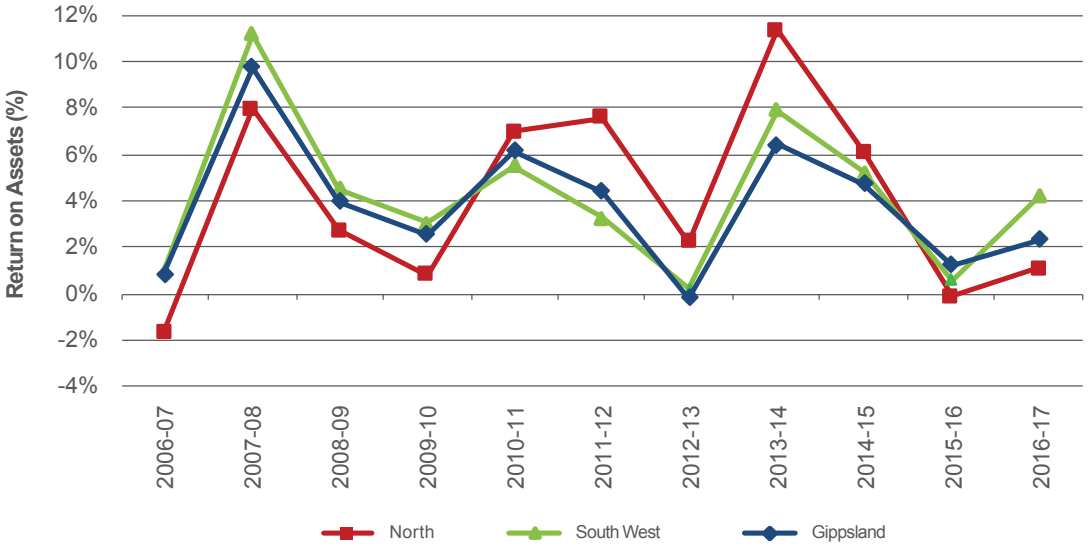
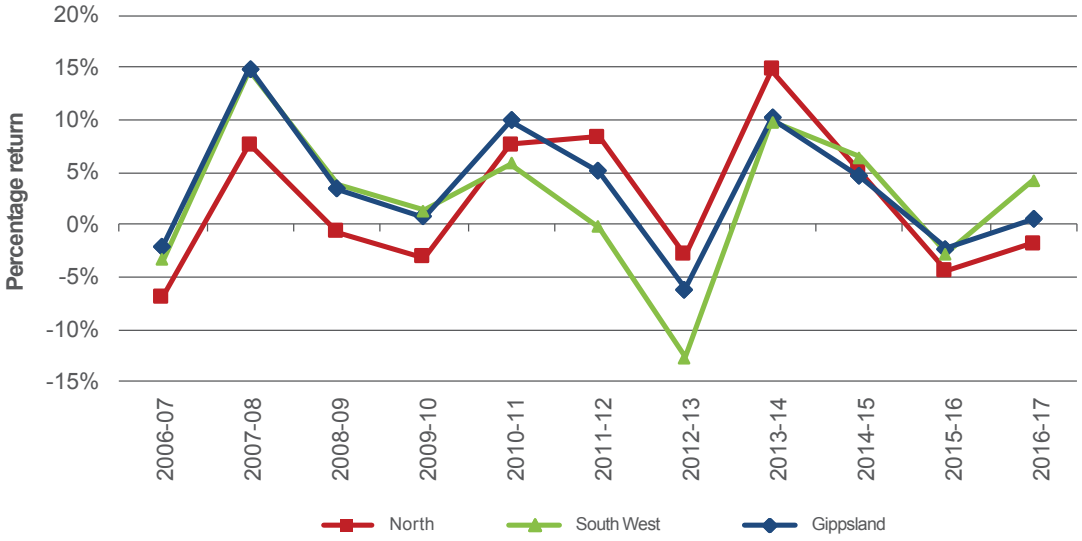


FIGURE 62. REGIONAL HISTORICAL RETURN ON EQUITY



Appendices

TABLE A1

Main financial indicators - Statewide

Farm number	Milk income (net)	All other income	Gross farm income	Total variable costs	Total overhead costs	Cost structure (variable costs / total costs)	Earnings Before Interest & Tax	Return on assets (excl. capital apprec.)	Interest & 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	$5.07	$0.73	$5.80	$2.89	$2.16	57%	$0.75	2.5%	$0.63	11.0%	$0.12	1.0%
Top 25%	$5.31	$0.76	$6.07	$2.53	$1.83	58%	$1.71	6.1%	$0.62	10.1%	$1.09	8.1%

TABLE A2

Physical information - Statewide

Farm number	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Fat	Protein
	HA	HA	MM/HA	HD	HD/HA	KG MS/ COW	KG MS/ HA	%	%
Average	268	166	1,017	342	1.5	503	748	4.2%	3.5%
Top 25%*	331	218	983	441	1.5	515	744	4.2%	3.5%

*on milking area

TABLE A2

Physical information (continued) - Statewide

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	HD/ FTE	KG MS/ FTE
Average	6.5	1.6	65%	133.2	16.5	26.0	22.2	105	52,500
Top 25%*	6.8	2.0	69%	146.1	17.7	29.7	22.7	122	61,063

TABLE A3

Purchased feed - Statewide

Farm number	Purchased feed per milker	Concentrate price	Purchased feed as % of ME consumed
	T DM/HD	$/ T DM	% OF ME
Average	2.2	$335	35%
Top 25%*	2.0	$334	31%

TABLE A4

Variable costs - Statewide

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd & 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	$0.11	$0.14	$0.04	$0.11	$0.09	$0.48	$0.35	$0.17	$0.20
Top 25%*	$0.10	$0.12	$0.03	$0.10	$0.08	$0.44	$0.37	$0.07	$0.18

Farm number	Fuel and oil	Pasture improvement/ cropping	Other feed costs	Fodder purchases	Grain/ concentrates/ other	Agistment costs	Total feed costs	Total variable costs
	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS
Average	$0.10	$0.16	$0.04	$0.23	$1.23	$0.09	$2.40	$2.89
Top 25%*	$0.08	$0.16	$0.05	$0.17	$1.12	$0.08	$2.09	$2.53

TABLE A5

Overhead costs - Statewide

Farm number	Rates	Registration & insurance	Repairs & maintenance	Other overheads	Employed Labour	Total cash overheads	Depreciation	Imputed owner / operator & family labour	Total overheads
	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS
Average	$0.06	$0.09	$0.31	$0.11	$0.52	$1.09	$0.24	$0.82	$2.16
Top 25%*	$0.05	$0.08	$0.28	$0.10	$0.57	$1.08	$0.20	$0.55	$1.83

TABLE A6

Variable costs - Statewide

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd & 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	2.2%	2.8%	0.7%	2.2%	1.7%	9.6%	7.0%	3.1%	4.1%
Top 25%*	2.4%	2.8%	0.8%	2.2%	1.9%	10.2%	8.7%	1.5%	4.2%

Farm number	Fuel and oil	Pasture improvement/ cropping	Other feed costs	Fodder purchases	Grain/ concentrates/ other	Agistment costs	Total feed costs	Total variable costs
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
Average	1.9%	3.1%	0.9%	4.3%	24.5%	1.7%	47.3%	57.1%
Top 25%*	1.7%	3.5%	1.2%	3.7%	25.2%	1.7%	47.7%	58.0%

TABLE A7

Overhead costs - Statewide

Farm number	Rates	Registration & insurance	Repairs & maintenance	Other overheads	Employed Labour	Total cash overheads	Depreciation	Imputed owner / operator & family labour	Total overheads
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
Average	1.2%	1.7%	6.2%	2.2%	10.5%	21.9%	4.7%	16.3%	42.9%
Top 25%*	1.1%	1.8%	6.5%	2.3%	12.7%	24.3%	4.4%	13.2%	42.0%

TABLE A8

Capital Structure - Statewide

	Farm Assets				Other farm assets (per usable hectare)				
	Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	Total assets
	$/HA	$/COW	$/HA	$/COW	$/HA	$/HA	$/HA	$/HA	$/HA
Average	$12,208	$8,011	$2,219	$1,375	$1,423	$2,979	$186	$712	$18,517
Top 25%*	$12,610	$8,151	$1,231	$592	$1,281	$2,998	$136	$896	$18,017

	Liabilities		Equity	
	Liabilities per usable hectare	Liabilities per milking cow	Equity per usable hectare	Average equity
	$/HA	$/COW	$/HA	%
Average	$6,843	$4,771	$11,674	62%
Top 25%*	$6,987	$4,646	$11,030	62%

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	$5.64	$5.23	$6.60	$0.21	$0.26	$0.15	$0.19	$2.83	$3.58	$3.23	$4.08
2007-08	$6.57	$7.94	$7.80	$9.43	$0.24	$0.29	$0.14	$0.17	$3.39	$4.10	$3.79	$4.58
2008-09	$5.35	$6.37	$6.08	$7.24	$0.23	$0.27	$0.15	$0.18	$2.85	$3.40	$3.23	$3.84
2009-10	$4.46	$5.16	$5.17	$5.97	$0.22	$0.25	$0.16	$0.18	$2.20	$2.54	$2.58	$2.98
2010-11	$5.64	$6.28	$6.47	$7.21	$0.26	$0.29	$0.18	$0.20	$2.27	$2.53	$2.71	$3.03
2011-12	$5.52	$6.08	$5.97	$6.58	$0.26	$0.28	$0.19	$0.21	$2.33	$2.56	$2.78	$3.06
2012-13	$4.90	$5.27	$5.25	$5.65	$0.27	$0.29	$0.22	$0.24	$2.59	$2.78	$3.08	$3.32
2013-14	$6.79	$7.09	$7.44	$7.78	$0.28	$0.29	$0.22	$0.23	$2.90	$3.03	$3.39	$3.54
2014-15	$6.04	$6.22	$6.61	$6.80	$0.29	$0.30	$0.20	$0.20	$2.90	$2.99	$3.39	$3.49
2015-16	$5.40	$5.51	$5.90	$6.02	$0.28	$0.29	$0.19	$0.19	$3.15	$3.21	$3.62	$3.69
2016-17	$5.07	$5.07	$5.80	$5.80	$0.29	$0.29	$0.20	$0.20	$2.40	$2.40	$2.89	$2.89
Average		$6.06		$6.83		$0.28		$0.20		$3.01		$3.50

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

	Overhead costs						Profit							
	Cash overhead costs		Non-cash overhead costs		Total overhead costs		Earnings before interest & tax		Interest & lease charges		Net farm income			
	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)	RETURN ON ASSETS	RETURN ON EQUITY
2006-07	$0.77	$0.97	$1.17	$1.48	$1.94	$2.45	$0.06	$0.07	$0.58	$0.73	-$0.52	-$0.66	0.1%	-4.1%
2007-08	$0.84	$1.02	$0.88	$1.06	$1.62	$1.96	$2.39	$2.88	$0.63	$0.76	$1.75	$2.12	9.8%	12.4%
2008-09	$0.82	$0.98	$0.88	$1.05	$1.70	$2.03	$1.08	$1.29	$0.59	$0.70	$0.49	$0.59	3.8%	2.2%
2009-10	$0.84	$0.97	$1.05	$1.21	$1.89	$2.18	$0.65	$0.75	$0.68	$0.78	-$0.03	-$0.03	2.2%	-0.3%
2010-11	$1.00	$1.12	$1.02	$1.14	$2.02	$2.25	$1.73	$1.93	$0.76	$0.84	$0.98	$1.09	6.2%	7.8%
2011-12	$0.99	$1.09	$1.07	$1.18	$2.06	$2.27	$1.14	$1.26	$0.71	$0.78	$0.43	$0.48	5.0%	4.4%
2012-13	$0.99	$1.07	$1.09	$1.17	$2.08	$2.24	$0.09	$0.10	$0.70	$0.75	-$0.60	-$0.65	0.7%	-7.3%
2013-14	$1.05	$1.10	$0.97	$1.02	$2.03	$2.12	$2.02	$2.11	$0.65	$0.68	$1.38	$1.44	8.5%	11.6%
2014-15	$1.08	$1.11	$0.90	$0.92	$1.97	$2.03	$1.25	$1.28	$0.60	$0.62	$0.64	$0.66	5.3%	5.2%
2015-16	$1.07	$1.09	$1.03	$1.05	$2.10	$2.14	$0.18	$0.19	$0.59	$0.60	-$0.41	-$0.42	0.6%	-3.2%
2016-17	$1.09	$1.09	$1.06	$1.06	$2.16	$2.16	$0.75	$0.75	$0.63	$0.63	$0.12	$0.12	2.5%	1.0%
Average		$1.05		$1.12		$2.17		$1.15		$0.72		$0.43	4.1%	2.7%

TABLE A10

Historical Data - Statewide

	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per useable area	Milk sold	Milk sold	Estimated grazed pasture*	Estimated conserved feed*	Home grown feed as % of ME consumed	Concentrate price	
	HA	HA	MM/HA	HD	HD/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	610	345	1.4	447	636	4.9	1.0	60%	$329	$416
2007-08	265	250	683	332	1.3	489	612	4.8	1.0	64%	$425	$514
2008-09	256	237	691	330	1.5	498	741	5.6	0.9	62%	$375	$447
2009-10	232	219	903	307	1.5	496	752	6.2	0.8	66%	$273	$315
2010-11	236	227	1,104	305	1.4	493	719	5.8	1.9	65%	$301	$336
2011-12	237	160	967	328	1.6	508	800	6.2	1.0	57%	$296	$326
2012-13	232	154	818	323	1.6	495	781	6.2	1.2	58%	$336	$362
2013-14	242	157	993	335	1.6	498	810	6.6	1.4	62%	$388	$406
2014-15	248	160	818	350	1.6	514	845	6.5	1.2	59%	$405	$417
2015-16	252	162	836	345	1.6	511	818	5.8	1.2	53%	$402	$410
2016-17	268	166	1,017	342	1.5	503	748	6.5	1.6	65%	$335	$335
Average	249	196	858	331	1.5	496	751	5.9	1.2	61%		$389

* 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 income	Gross farm income	Total variable costs	Total overhead costs	Cost structure (variable costs / total costs)	Earnings Before Interest & Tax	Return on assets (excl. capital apprec.)	Interest & 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	$5.06	$1.12	$6.18	$3.78	$2.07	65%	$0.33	1.2%	$0.24	4.0%	$0.09	0.4%
NO0014	$4.70	$1.27	$5.97	$2.58	$2.51	51%	$0.88	2.6%	$0.67	11.0%	$0.21	1.0%
NO0015	$4.96	$0.91	$5.87	$3.11	$1.90	62%	$0.86	2.3%	$0.58	10.0%	$0.28	1.0%
NO0020	***$6.08***	***$0.84***	***$6.92***	***$3.23***	***$1.88***	***63%***	***$1.81***	***6.0%***	***$0.63***	***9.0%***	***$1.18***	***8.7%***
NO0022	***$4.76***	***$0.88***	***$5.64***	***$2.53***	***$1.71***	***60%***	***$1.40***	***4.2%***	***$0.20***	***4.0%***	***$1.20***	***4.4%***
NO0023	***$4.83***	***$0.81***	***$5.65***	***$2.71***	***$2.17***	***55%***	***$0.77***	***3.5%***	***$0.53***	***9.0%***	***$0.24***	***1.9%***
NO0039	$4.99	$0.51	$5.50	$4.13	$2.11	66%	-$0.74	-4.4%	$0.47	9.0%	-$1.22	-13.0%
NO0040	$4.90	$0.11	$5.01	$4.25	$2.20	66%	-$1.43	-8.9%	$0.30	6.0%	-$1.73	-18.9%
NO0041	$5.31	$0.67	$5.98	$3.16	$2.14	60%	$0.68	2.4%	$0.76	13.0%	-$0.08	-1.2%
NO0043	$4.89	$0.52	$5.42	$4.18	$2.55	62%	-$1.32	-4.2%	$0.77	14.0%	-$2.09	-11.5%
NO0044	***$5.66***	***$0.84***	***$6.50***	***$4.02***	***$1.50***	***73%***	***$0.98***	***4.4%***	***$0.34***	***5.0%***	***$0.65***	***4.4%***
NO0046	$4.89	$0.76	$5.64	$3.53	$1.97	64%	$0.14	0.8%	$0.57	10.0%	-$0.43	- 4.4%
NO0051	$4.87	$3.44	$8.31	$4.88	$3.01	62%	$0.43	1.6%	$0.56	7.0%	-$0.12	- 0.7%
NO0054	$6.11	$0.55	$6.66	$4.00	$1.83	69%	$0.83	3.4%	$0.58	9.0%	$0.25	2.0%
NO0056	$5.18	$0.91	$6.09	$3.66	$2.11	63%	$0.33	1.0%	$0.75	12.0%	-$0.43	-3.8%
NO0059	***$5.09***	***$0.47***	***$5.57***	***$3.25***	***$1.46***	***69%***	***$0.85***	***5.1%***	***$0.76***	***14.0%***	***$0.10***	***1.7%***
NO0060	$5.74	-$0.06	$5.68	$3.69	$2.52	59%	-$0.53	-2.0%	$0.67	12.0%	-$1.20	-8.4%
NO0061	$4.91	$0.85	$5.76	$2.86	$2.63	52%	$0.27	0.7%	$0.27	5.0%	-$0.00	0.0%
NO0062	$4.90	$0.53	$5.43	$4.14	$1.70	71%	-$0.41	-1.8%	$0.57	11.0%	-$0.98	-7.6%
NO0063	$4.42	$0.88	$5.31	$4.24	$2.31	65%	-$1.25	-4.2%	$0.38	7.0%	-$1.62	-7.4%
NO0064	$4.98	$0.73	$5.71	$3.67	$1.97	65%	$0.07	0.3%	$0.40	7.0%	-$0.33	-2.1%
NO0065	$5.23	$0.09	$5.32	$3.65	$1.54	70%	$0.13	0.6%	$0.54	10.0%	-$0.41	- 8.2%
NO0066	$4.90	$1.26	$6.17	$2.30	$2.77	45%	$1.10	2.5%	$1.28	21.0%	-$0.18	-1.4%
NO0067	$5.19	$0.21	$5.39	$1.72	$3.34	34%	$0.33	0.5%	$0.83	15.0%	-$0.50	-1.1%
NO0068	***$5.74***	***$0.67***	***$6.41***	***$2.11***	***$1.58***	***57%***	***$2.72***	***8.3%***	***$1.03***	***16.0%***	***$1.68***	***14.8%***
Average	$5.13	$0.79	$5.92	$3.41	$2.14	61%	$0.37	1.0%	$0.59	10.0%	-$0.22	-2.0%
Top 25%*	$5.36	$0.75	$6.11	$2.97	$1.72	63%	$1.42	5.3%	$0.58	9.0%	$0.84	6.0%

* Top 25% are bold and italicised

TABLE B2

Physical information - North

Farm number	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Fat	Protein
	HA	HA	MM/HA	HD	HD/HA	KG MS/ COW	KG MS/ HA	%	%
NO0012	472	372	1,043	700	1.5	612	908	4.0%	3.4%
NO0014	467	300	1,055	402	0.9	475	409	3.8%	3.3%
NO0015	238	92	943	305	1.3	418	536	4.4%	3.7%
NO0020	***508***	***306***	***910***	***503***	***1.0***	***599***	***593***	***3.5%***	***3.3%***
NO0022	***226***	***105***	***950***	***300***	***1.3***	***478***	***635***	***4.6%***	***3.4%***
NO0023	***342***	***155***	***1,156***	***360***	***1.1***	***451***	***475***	***4.5%***	***3.5%***
NO0039	90	70	1,179	320	3.6	432	1,538	4.5%	3.7%
NO0040	99	99	906	210	2.1	533	1,131	4.3%	3.5%
NO0041	217	153	846	280	1.3	560	723	4.1%	3.4%
NO0043	60	60	1,285	176	2.9	398	1,167	4.7%	3.5%
NO0044	***208***	***100***	***1,136***	***330***	***1.6***	***551***	***872***	***4.3%***	***3.5%***
NO0046	117	102	1,163	340	2.9	528	1,533	4.5%	3.5%
NO0051	60	30	1,346	110	1.8	528	969	4.2%	3.4%
NO0054	1,131	310	830	1,100	1.0	667	649	3.8%	3.3%
NO0056	264	90	1,037	246	0.9	621	579	4.0%	3.2%
NO0059	***241***	***75***	***1,246***	***280***	***1.2***	***514***	***597***	***4.0%***	***3.4%***
NO0060	208	158	1,040	329	1.6	522	826	4.2%	3.3%
NO0061	205	114	1,112	237	1.2	486	561	4.2%	3.3%
NO0062	205	125	893	255	1.2	473	589	4.3%	3.4%
NO0063	64	64	2,602	180	2.8	519	1,461	3.6%	3.1%
NO0064	289	254	1,335	590	2.0	441	901	4.6%	3.6%
NO0065	108	108	1,477	300	2.8	577	1,604	3.9%	3.5%
NO0066	359	190	846	330	0.9	403	370	4.2%	3.5%
NO0067	323	81	695	240	0.7	331	246	4.1%	3.2%
NO0068	***353***	***277***	***1,161***	***820***	***2.3***	***346***	***804***	***4.4%***	***3.6%***
Average	274	152	1,128	370	1.7	499	827	4.2%	3.4%
Top 25%*	313	170	1,093	432	1.4	490	663	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	HD/ FTE	KG MS/ FTE
NO0012	4.5	1.5	58%	139.2	34.1	3.4	41.3	122	74,407
NO0014	5.2	1.7	68%	67.1	29.9	11.7	25.7	75	35,537
NO0015	6.3	0.0	57%	19.3	5.5	0.0	6.9	163	68,257
NO0020	***5.9***	***1.0***	***59%***	***83.1***	***13.0***	***13.8***	***2.0***	***100***	***60,037***
NO0022	***8.6***	***0.0***	***68%***	***35.0***	***3.1***	***4.6***	***3.8***	***142***	***68,035***
NO0023	***4.8***	***1.6***	***61%***	***20.6***	***9.3***	***4.8***	***13.8***	***94***	***42,652***
NO0039	9.1	0.3	42%	123.6	2.2	1.1	3.9	111	47,845
NO0040	2.7	1.5	32%	108.7	0.0	0.0	56.7	82	43,795
NO0041	5.0	1.9	58%	155.1	53.2	0.0	4.4	92	51,546
NO0043	11.2	0.0	69%	92.0	0.0	0.0	0.0	107	42,517
NO0044	***6.5***	***0.0***	***44%***	***58.2***	***36.4***	***10.4***	***46.1***	***125***	***68,903***
NO0046	7.0	0.6	43%	94.7	24.2	12.2	11.4	103	54,122
NO0051	14.0	0.0	84%	367.6	30.0	37.1	70.6	78	41,274
NO0054	7.1	0.0	47%	125.6	44.4	17.1	69.7	110	73,216
NO0056	6.8	0.5	63%	31.9	19.4	3.7	9.7	72	44,599
NO0059	***6.9***	***0.0***	***50%***	***15.0***	***8.9***	***0.0***	***2.8***	***119***	***61,005***
NO0060	4.5	1.3	41%	109.0	8.1	4.9	2.4	68	35,369
NO0061	7.4	1.2	76%	62.9	20.4	5.0	21.4	83	40,195
NO0062	5.3	0.0	60%	32.0	0.5	0.5	33.5	140	66,349
NO0063	4.8	0.0	28%	101.8	11.9	153.3	86.7	74	38,250
NO0064	5.2	0.2	51%	192.6	11.1	0.0	9.1	122	53,708
NO0065	8.8	0.0	45%	305.0	28.5	5.6	66.7	113	65,205
NO0066	3.3	0.9	77%	43.4	9.9	2.9	2.2	78	31,252
NO0067	8.8	1.0	82%	42.2	5.1	0.0	0.4	123	40,713
NO0068	***10.3***	***1.9***	***97%***	***208.6***	***45.6***	***0.0***	***184.0***	***224***	***77,488***
Average	6.8	1.1	58%	105.4	18.2	11.7	31.0	109	53,051
Top 25%*	7.2	1.5	63%	70.1	19.4	5.6	42.1	134	63,020

** on milking area

TABLE B3

Purchased feed - North

Farm number	Purchased feed per milker	Concentrate price	Purchased feed as % of ME consumed
	T DM/HD	$/ T DM	% OF ME
NO0012	2.8	$367	42%
NO0014	2.6	$250	32%
NO0015	2.8	$222	43%
NO0020	***3.5***	***$343***	***41%***
NO0022	***1.9***	***$327***	***32%***
NO0023	***2.7***	***$245***	***39%***
NO0039	3.5	$287	58%
NO0040	4.2	$355	68%
NO0041	3.1	$401	42%
NO0043	1.9	$416	31%
NO0044	***3.7***	***$308***	***56%***
NO0046	3.9	$262	57%
NO0051	1.1	$243	16%
NO0054	4.0	$415	53%
NO0056	2.8	$343	37%
NO0059	***2.9***	***$411***	***50%***
NO0060	4.2	$263	59%
NO0061	1.6	$299	24%
NO0062	2.7	$367	40%
NO0063	4.3	$363	72%
NO0064	2.7	$240	49%
NO0065	0.0	$340	55%
NO0066	1.3	$287	23%
NO0067	0.9	$238	18%
NO0068	***0.1***	***$184***	***3%***
Average	2.7	$311	42%
Top 25%*	2.5	$303	37%

TABLE B4

Variable costs - North

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd & 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	$0.12	$0.21	$0.06	$0.08	$0.10	$0.56	$0.34	$0.43	$0.34
NO0014	$0.14	$0.15	$0.05	$0.12	$0.11	$0.57	$0.45	$0.02	$0.02
NO0015	$0.16	$0.17	$0.00	$0.12	$0.06	$0.52	$0.08	$0.61	$0.32
NO0020	***$0.14***	***$0.17***	***$0.13***	***$0.08***	***$0.06***	***$0.58***	***$0.33***	***$0.00***	***$0.10***
NO0022	***$0.08***	***$0.14***	***$0.00***	***$0.12***	***$0.02***	***$0.37***	***$0.11***	***$0.43***	***$0.18***
NO0023	***$0.14***	***$0.16***	***$0.01***	***$0.16***	***$0.09***	***$0.55***	***$0.12***	***$0.30***	***$0.26***
NO0039	$0.08	$0.15	$0.04	$0.09	$0.10	$0.45	$0.12	$0.50	$0.01
NO0040	$0.12	$0.22	$0.01	$0.11	$0.06	$0.51	$0.14	$0.62	$0.18
NO0041	$0.08	$0.31	$0.00	$0.12	$0.06	$0.56	$0.16	$0.31	$0.27
NO0043	$0.09	$0.11	$0.03	$0.15	$0.12	$0.50	$0.09	$0.94	$0.03
NO0044	***$0.09***	***$0.15***	***$0.10***	***$0.09***	***$0.07***	***$0.49***	***$0.45***	***$0.39***	***$0.10***
NO0046	$0.09	$0.11	$0.03	$0.14	$0.04	$0.41	$0.14	$0.49	$0.04
NO0051	$0.16	$0.23	$0.15	$0.19	$0.04	$0.77	$0.63	$0.53	$0.26
NO0054	$0.26	$0.22	$0.01	$0.07	$0.04	$0.61	$0.37	$0.27	$0.55
NO0056	$0.22	$0.27	$0.03	$0.14	$0.06	$0.73	$0.19	$0.44	$0.35
NO0059	***$0.08***	***$0.05***	***$0.03***	***$0.10***	***$0.07***	***$0.33***	***$0.07***	***$0.42***	***$0.27***
NO0060	$0.13	$0.19	$0.00	$0.10	$0.19	$0.61	$0.30	$0.38	$0.14
NO0061	$0.16	$0.12	$0.00	$0.07	$0.06	$0.42	$0.24	$1.10	$0.11
NO0062	$0.13	$0.11	$0.03	$0.16	$0.13	$0.57	$0.14	$0.28	$0.16
NO0063	$0.11	$0.22	$0.01	$0.18	$0.04	$0.56	$0.43	$0.32	$0.01
NO0064	$0.08	$0.19	$0.01	$0.12	$0.06	$0.45	$0.23	$0.61	$0.10
NO0065	$0.11	$0.14	$0.02	$0.12	$0.21	$0.61	$0.31	$0.28	$0.18
NO0066	$0.13	$0.19	$0.06	$0.07	$0.09	$0.53	$0.22	$0.20	$0.70
NO0067	$0.08	$0.25	$0.03	$0.12	$0.18	$0.66	$0.25	$0.55	$0.41
NO0068	***$0.15***	***$0.14***	***$0.07***	***$0.07***	***$0.03***	***$0.47***	***$0.52***	***$0.41***	***$0.20***
Average	$0.12	$0.18	$0.04	$0.12	$0.08	$0.54	$0.26	$0.43	$0.21
Top 25%*	$0.11	$0.14	$0.06	$0.10	$0.06	$0.46	$0.27	$0.32	$0.18

Farm number	Fuel and oil	Pasture improvement /cropping	Other feed costs	Fodder purchases	Grain/ concentrates/ other	Agistment costs	Total feed costs	Total variable costs
	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS
NO0012	$0.10	$0.23	$0.04	$0.21	$1.43	$0.40	$3.21	$3.78
NO0014	$0.17	$0.16	$0.09	$0.42	$0.88	$0.00	$2.01	$2.58
NO0015	$0.14	$0.12	$0.03	$0.63	$0.98	$0.00	$2.54	$3.11
NO0020	***$0.06***	***$0.17***	***$0.07***	***$0.36***	***$1.51***	***$0.00***	***$2.65***	***$3.23***
NO0022	***$0.06***	***$0.22***	***$0.03***	***$0.18***	***$1.10***	***$0.01***	***$2.16***	***$2.53***
NO0023	***$0.08***	***$0.36***	***$0.01***	***$0.78***	***$1.05***	***$0.00***	***$2.15***	***$2.71***
NO0039	$0.07	$0.12	$0.00	$1.21	$1.14	$0.29	$3.62	$4.13
NO0040	$0.08	$0.25	$0.00	$1.05	$1.36	$0.15	$3.73	$4.25
NO0041	$0.08	$0.26	$0.12	$0.54	$1.37	$0.14	$2.60	$3.16
NO0043	$0.15	$0.11	$0.00	$0.24	$1.66	$0.00	$3.60	$4.18
NO0044	***$0.05***	***$0.44***	***$0.01***	***$0.80***	***$1.34***	***$0.09***	***$3.53***	***$4.02***
NO0046	$0.09	$0.19	$0.00	$1.19	$0.92	$0.23	$3.12	$3.53
NO0051	$0.15	$0.34	$0.26	$0.00	$0.59	$0.16	$4.11	$4.88
NO0054	$0.06	$0.27	$0.13	$0.16	$2.06	$0.20	$3.39	$4.00
NO0056	$0.12	$0.28	$0.06	$0.14	$1.48	$0.00	$2.93	$3.66
NO0059	***$0.03***	***$0.22***	***$0.08***	***$0.32***	***$1.73***	***$0.00***	***$2.92***	***$3.25***
NO0060	$0.20	$0.15	$0.04	$0.74	$1.05	$0.09	$3.08	$3.69
NO0061	$0.15	$0.20	$0.10	$0.15	$0.82	$0.08	$2.43	$2.86
NO0062	$0.05	$0.41	$0.11	$0.68	$1.12	$0.52	$3.56	$4.14
NO0063	$0.05	$0.10	$0.00	$0.69	$2.02	$0.16	$3.68	$4.24
NO0064	$0.13	$0.20	$0.09	$0.68	$0.92	$0.24	$3.22	$3.67
NO0065	$0.06	$0.19	$0.05	$0.13	$1.49	$0.15	$3.04	$3.65
NO0066	$0.08	$0.15	$0.04	$0.00	$0.95	$0.00	$1.76	$2.30
NO0067	$0.17	$0.32	$0.02	$0.00	$0.62	$0.17	$1.06	$1.72
NO0068	***$0.06***	***$0.31***	***$0.00***	***$0.00***	***$0.06***	***$0.01***	***$1.63***	***$2.11***
Average	$0.10	$0.23	$0.06	$0.45	$1.19	$0.12	$2.87	$3.41
Top 25%*	$0.06	$0.29	$0.03	$0.41	$1.13	$0.02	$2.51	$2.97

TABLE B5

Overhead costs - North

Farm number	Rates	Registration & insurance	Repairs & maintenance	Other overheads	Employed Labour	Total cash overheads	Depreciation	Imputed owner / operator & family labour	Total overheads
	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS
NO0012	$0.04	$0.01	$0.29	$0.17	$1.11	$1.62	$0.44	$0.02	$2.07
NO0014	$0.06	$0.09	$0.44	$0.09	$0.49	$1.17	$0.61	$0.73	$2.51
NO0015	$0.06	$0.12	$0.61	$0.09	$0.78	$1.66	$0.13	$0.11	$1.90
NO0020	***$0.05***	***$0.05***	***$0.29***	***$0.13***	***$0.47***	***$0.98***	***$0.22***	***$0.67***	***$1.88***
NO0022	***$0.09***	***$0.07***	***$0.29***	***$0.10***	***$0.37***	***$0.91***	***$0.11***	***$0.68***	***$1.71***
NO0023	***$0.08***	***$0.06***	***$0.20***	***$0.10***	***$1.05***	***$1.49***	***$0.14***	***$0.53***	***$2.17***
NO0039	$0.03	$0.07	$0.36	$0.11	$0.58	$1.15	$0.15	$0.81	$2.11
NO0040	$0.03	$0.07	$0.27	$0.07	$0.06	$0.49	$0.24	$1.47	$2.20
NO0041	$0.03	$0.05	$0.49	$0.08	$0.64	$1.29	$0.22	$0.63	$2.14
NO0043	$0.06	$0.19	$0.15	$0.24	$0.00	$0.64	$0.34	$1.58	$2.55
NO0044	***$0.04***	***$0.06***	***$0.31***	***$0.04***	***$0.43***	***$0.88***	***$0.11***	***$0.50***	***$1.50***
NO0046	$0.04	$0.06	$0.29	$0.06	$0.76	$1.21	$0.19	$0.57	$1.97
NO0051	$0.18	$0.36	$0.32	$0.07	$0.09	$1.02	$0.46	$1.53	$3.01
NO0054	$0.02	$0.02	$0.44	$0.19	$1.03	$1.70	$0.13	$0.00	$1.83
NO0056	$0.06	$0.08	$0.40	$0.10	$0.28	$0.91	$0.09	$1.10	$2.11
NO0059	***$0.04***	***$0.02***	***$0.12***	***$0.08***	***$0.47***	***$0.73***	***$0.18***	***$0.56***	***$1.46***
NO0060	$0.03	$0.10	$0.30	$0.09	$0.53	$1.06	$0.20	$1.25	$2.52
NO0061	$0.08	$0.07	$0.30	$0.11	$0.37	$0.93	$0.32	$1.38	$2.63
NO0062	$0.05	$0.15	$0.34	$0.13	$0.28	$0.94	$0.07	$0.70	$1.70
NO0063	$0.04	$0.10	$0.34	$0.03	$0.49	$1.01	$0.22	$1.09	$2.31
NO0064	$0.02	$0.10	$0.48	$0.08	$0.64	$1.31	$0.12	$0.54	$1.97
NO0065	$0.01	$0.06	$0.29	$0.10	$0.56	$1.02	$0.11	$0.41	$1.54
NO0066	$0.08	$0.10	$0.36	$0.10	$1.02	$1.65	$0.31	$0.81	$2.77
NO0067	$0.11	$0.21	$0.71	$0.14	$0.31	$1.48	$0.47	$1.39	$3.34
NO0068	***$0.04***	***$0.10***	***$0.38***	***$0.06***	***$0.48***	***$1.06***	***$0.09***	***$0.43***	***$1.58***
Average	$0.05	$0.09	$0.35	$0.10	$0.53	$1.13	$0.23	$0.78	$2.14
Top 25%*	$0.06	$0.06	$0.27	$0.09	$0.55	$1.01	$0.14	$0.56	$1.72

TABLE B6

Variable costs - North

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd & 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	2.0%	3.5%	1.1%	1.3%	1.6%	9.6%	5.8%	7.3%	5.8%
NO0014	2.7%	2.9%	0.9%	2.4%	2.2%	11.1%	8.9%	0.4%	0.4%
NO0015	3.2%	3.5%	0.0%	2.4%	1.3%	10.4%	1.6%	12.1%	6.5%
NO0020	***2.8%***	***3.3%***	***2.5%***	***1.6%***	***1.1%***	***11.3%***	***6.4%***	***0.0%***	***1.9%***
NO0022	***1.9%***	***3.3%***	***0.1%***	***2.8%***	***0.5%***	***8.7%***	***2.6%***	***10.1%***	***4.1%***
NO0023	***2.9%***	***3.3%***	***0.1%***	***3.3%***	***1.7%***	***11.3%***	***2.4%***	***6.2%***	***5.2%***
NO0039	1.2%	2.3%	0.6%	1.4%	1.6%	7.3%	1.9%	8.0%	0.2%
NO0040	1.8%	3.3%	0.2%	1.6%	1.0%	8.0%	2.2%	9.5%	2.9%
NO0041	1.4%	5.9%	0.0%	2.2%	1.1%	10.6%	3.0%	5.8%	5.1%
NO0043	1.3%	1.7%	0.5%	2.3%	1.7%	7.5%	1.3%	13.9%	0.4%
NO0044	***1.6%***	***2.7%***	***1.7%***	***1.6%***	***1.2%***	***8.8%***	***8.1%***	***7.1%***	***1.9%***
NO0046	1.6%	2.0%	0.6%	2.5%	0.7%	7.4%	2.5%	8.9%	0.7%
NO0051	2.0%	2.9%	1.9%	2.4%	0.5%	9.8%	8.0%	6.7%	3.3%
NO0054	4.5%	3.9%	0.2%	1.3%	0.7%	10.5%	6.3%	4.7%	9.4%
NO0056	3.8%	4.7%	0.4%	2.5%	1.1%	12.6%	3.3%	7.7%	6.0%
NO0059	***1.7%***	***1.1%***	***0.6%***	***2.1%***	***1.5%***	***7.1%***	***1.4%***	***8.8%***	***5.6%***
NO0060	2.0%	3.1%	0.0%	1.6%	3.1%	9.8%	4.9%	6.0%	2.3%
NO0061	2.9%	2.3%	0.1%	1.4%	1.2%	7.7%	4.4%	20.1%	2.1%
NO0062	2.3%	2.0%	0.5%	2.8%	2.3%	9.8%	2.4%	4.9%	2.8%
NO0063	1.7%	3.3%	0.2%	2.7%	0.7%	8.5%	6.6%	4.9%	0.2%
NO0064	1.3%	3.3%	0.3%	2.0%	1.0%	8.0%	4.0%	10.7%	1.9%
NO0065	2.2%	2.8%	0.4%	2.4%	4.0%	11.8%	5.9%	5.5%	3.5%
NO0066	2.5%	3.8%	1.2%	1.4%	1.7%	10.5%	4.3%	4.0%	13.7%
NO0067	1.6%	5.0%	0.6%	2.3%	3.5%	13.1%	4.9%	10.9%	8.1%
NO0068	***4.2%***	***3.8%***	***2.0%***	***2.0%***	***0.8%***	***12.8%***	***14.1%***	***11.1%***	***5.5%***
Average	2.3%	3.2%	0.7%	2.1%	1.5%	9.8%	4.7%	7.8%	4.0%
Top 25%*	2.5%	2.9%	1.2%	2.2%	1.2%	10.0%	5.8%	7.2%	4.0%

Farm number	Fuel and oil	Pasture improvement/ cropping	Other feed costs	Fodder purchases	Grain/ concentrates/ other	Agistment costs	Total feed costs	Total variable costs
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
NO0012	1.8%	3.9%	0.6%	3.6%	24.4%	6.8%	54.8%	64.6%
NO0014	3.4%	3.1%	1.7%	8.2%	17.2%	0.0%	39.5%	50.6%
NO0015	2.9%	2.4%	0.5%	12.6%	19.5%	0.0%	50.6%	62.0%
NO0020	***1.2%***	***3.4%***	***1.5%***	***7.0%***	***29.5%***	***0.0%***	***52.0%***	***63.3%***
NO0022	***1.5%***	***5.1%***	***0.8%***	***4.3%***	***25.9%***	***0.3%***	***50.9%***	***59.6%***
NO0023	***1.6%***	***7.3%***	***0.2%***	***16.1%***	***21.6%***	***0.0%***	***44.2%***	***55.5%***
NO0039	1.2%	2.0%	0.0%	19.4%	18.3%	4.7%	58.0%	66.3%
NO0040	1.3%	4.0%	0.0%	16.4%	21.2%	2.3%	57.9%	65.9%
NO0041	1.5%	5.0%	2.3%	10.1%	25.9%	2.6%	49.0%	59.6%
NO0043	2.2%	1.6%	0.0%	3.6%	24.6%	0.0%	53.4%	62.1%
NO0044	***0.9%***	***8.0%***	***0.2%***	***14.5%***	***24.2%***	***1.6%***	***64.1%***	***72.9%***
NO0046	1.7%	3.5%	0.0%	21.6%	16.8%	4.2%	56.8%	64.2%
NO0051	1.9%	4.3%	3.3%	0.0%	7.5%	2.0%	52.1%	61.9%
NO0054	1.0%	4.6%	2.2%	2.7%	35.3%	3.4%	58.1%	68.6%
NO0056	2.1%	4.9%	1.1%	2.5%	25.7%	0.0%	50.8%	63.4%
NO0059	***0.6%***	***4.7%***	***1.6%***	***6.8%***	***36.8%***	***0.0%***	***61.9%***	***69.0%***
NO0060	3.2%	2.5%	0.7%	11.9%	16.9%	1.5%	49.6%	59.4%
NO0061	2.6%	3.6%	1.8%	2.7%	14.9%	1.4%	44.3%	52.1%
NO0062	0.9%	7.0%	1.8%	11.6%	19.2%	9.0%	61.0%	70.9%
NO0063	0.7%	1.5%	0.0%	10.6%	30.8%	2.4%	56.2%	64.7%
NO0064	2.3%	3.5%	1.7%	12.0%	16.4%	4.3%	57.0%	65.0%
NO0065	1.2%	3.6%	0.9%	2.5%	28.6%	2.9%	58.6%	70.3%
NO0066	1.7%	3.0%	0.8%	0.0%	18.8%	0.0%	34.8%	45.3%
NO0067	3.3%	6.3%	0.4%	0.0%	12.2%	3.3%	20.9%	34.0%
NO0068	***1.6%***	***8.3%***	***0.0%***	***0.0%***	***1.7%***	***0.3%***	***44.2%***	***57.1%***
Average	1.8%	4.3%	1.0%	8.0%	21.4%	2.1%	51.2%	61.1%
Top 25%*	1.2%	6.1%	0.7%	8.1%	23.3%	0.4%	52.9%	62.9%

TABLE B7

Overhead costs - North

Farm number	Rates	Registration & insurance	Repairs & maintenance	Other overheads	Employed Labour	Total cash overheads	Depreciation	Imputed owner / operator & family labour	Total overheads
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
NO0012	0.7%	0.2%	4.9%	2.8%	19.0%	27.6%	7.5%	0.3%	35.4%
NO0014	1.2%	1.7%	8.7%	1.7%	9.7%	23.0%	12.0%	14.4%	49.4%
NO0015	1.3%	2.5%	12.1%	1.7%	15.6%	33.2%	2.6%	2.2%	38.0%
NO0020	***0.9%***	***0.9%***	***5.7%***	***2.5%***	***9.2%***	***19.2%***	***4.3%***	***13.1%***	***36.7%***
NO0022	***2.0%***	***1.7%***	***6.8%***	***2.3%***	***8.7%***	***21.6%***	***2.7%***	***16.1%***	***40.4%***
NO0023	***1.7%***	***1.3%***	***4.2%***	***2.0%***	***21.5%***	***30.6%***	***2.9%***	***10.9%***	***44.5%***
NO0039	0.4%	1.2%	5.7%	1.7%	9.3%	18.4%	2.4%	13.0%	33.7%
NO0040	0.5%	1.1%	4.2%	1.0%	0.9%	7.6%	3.7%	22.8%	34.1%
NO0041	0.5%	1.0%	9.2%	1.5%	12.1%	24.3%	4.1%	12.0%	40.4%
NO0043	0.9%	2.7%	2.2%	3.5%	0.0%	9.4%	5.0%	23.5%	37.9%
NO0044	***0.7%***	***1.0%***	***5.7%***	***0.8%***	***7.9%***	***16.0%***	***2.0%***	***9.1%***	***27.1%***
NO0046	0.7%	1.1%	5.2%	1.0%	13.9%	21.9%	3.5%	10.4%	35.8%
NO0051	2.2%	4.6%	4.1%	0.9%	1.1%	13.0%	5.8%	19.4%	38.1%
NO0054	0.4%	0.4%	7.5%	3.3%	17.6%	29.2%	2.2%	0.0%	31.4%
NO0056	1.0%	1.3%	7.0%	1.7%	4.9%	15.9%	1.6%	19.1%	36.6%
NO0059	***0.8%***	***0.4%***	***2.5%***	***1.8%***	***10.1%***	***15.5%***	***3.7%***	***11.8%***	***31.0%***
NO0060	0.5%	1.7%	4.9%	1.5%	8.6%	17.1%	3.2%	20.2%	40.6%
NO0061	1.4%	1.3%	5.4%	2.0%	6.8%	17.0%	5.8%	25.2%	47.9%
NO0062	0.8%	2.5%	5.7%	2.3%	4.7%	16.0%	1.2%	11.9%	29.1%
NO0063	0.6%	1.5%	5.3%	0.5%	7.5%	15.3%	3.3%	16.6%	35.3%
NO0064	0.4%	1.8%	8.5%	1.4%	11.3%	23.2%	2.1%	9.6%	35.0%
NO0065	0.3%	1.1%	5.6%	1.9%	10.7%	19.6%	2.2%	7.9%	29.7%
NO0066	1.5%	1.9%	7.1%	1.9%	20.1%	32.5%	6.1%	16.1%	54.7%
NO0067	2.1%	4.1%	14.1%	2.8%	6.2%	29.3%	9.2%	27.5%	66.0%
NO0068	***1.1%***	***2.8%***	***10.2%***	***1.8%***	***13.0%***	***28.8%***	***2.3%***	***11.8%***	***42.9%***
Average	1.0%	1.7%	6.5%	1.9%	10.0%	21.0%	4.1%	13.8%	38.9%
Top 25%*	1.2%	1.3%	5.8%	1.9%	11.7%	22.0%	3.0%	12.1%	37.1%

TABLE B8

Capital Structure - North

	Farm Assets				Other farm assets (per usable hectare)				
	Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	Total assets
	$/HA	$/COW	$/HA	$/COW	$/HA	$/HA	$/HA	$/HA	$/HA
Average	$8,302	$5,585	$5,510	$3,899	$1,468	$3,279	$249	$606	$19,478
Top 25%*	$8,288	$5,313	$4,578	$2,826	$821	$2,717	$177	$347	$15,845

	Liabilities		Equity	
	Liabilities per usable hectare	Liabilities per milking cow	Equity per usable hectare	Average equity
	$/HA	$/COW	$/HA	%
Average	$7,240	$4,539	$12,238	61%
Top 25%*	$6,398	$4,201	$9,448	60%

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	$5.86	$5.48	$6.92	$0.21	$0.27	$0.17	$0.21	$3.60	$4.55	$4.03	$5.09
2007-08	$6.53	$7.89	$7.86	$9.50	$0.23	$0.27	$0.15	$0.18	$4.37	$5.29	$4.70	$5.68
2008-09	$5.32	$6.33	$6.06	$7.21	$0.21	$0.25	$0.13	$0.16	$3.47	$4.13	$3.81	$4.54
2009-10	$4.46	$5.15	$5.19	$6.00	$0.23	$0.27	$0.15	$0.17	$2.71	$3.13	$3.09	$3.57
2010-11	$5.69	$6.35	$6.74	$7.51	$0.31	$0.34	$0.19	$0.21	$2.66	$2.97	$3.16	$3.52
2011-12	$5.64	$6.21	$6.06	$6.68	$0.26	$0.29	$0.18	$0.19	$2.52	$2.77	$2.95	$3.25
2012-13	$5.05	$5.43	$5.53	$5.95	$0.25	$0.27	$0.24	$0.25	$2.85	$3.06	$3.34	$3.59
2013-14	$6.83	$7.13	$7.46	$7.80	$0.27	$0.28	$0.21	$0.22	$3.13	$3.27	$3.61	$3.77
2014-15	$6.09	$6.27	$6.62	$6.82	$0.30	$0.31	$0.19	$0.20	$3.20	$3.29	$3.69	$3.79
2015-16	$5.46	$5.57	$5.98	$6.09	$0.30	$0.30	$0.18	$0.18	$3.59	$3.66	$4.06	$4.14
2016-17	$5.13	$5.13	$5.92	$5.92	$0.34	$0.34	$0.20	$0.20	$2.87	$2.87	$3.41	$3.41
Average		$6.12		$6.95		$0.29		$0.20		$3.54		$4.03

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

	Overhead costs						Profits							
	Cash overhead costs		Non-cash overhead costs		Total overhead costs		Earnings before interest & tax		Interest & lease charges		Net farm income			
	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)	RETURN ON ASSETS	RETURN ON EQUITY
2006-07	$0.82	$1.03	$1.10	$1.39	$1.92	$2.43	-$0.47	-$0.59	$0.57	$0.71	-$1.04	-$1.31	-1.6%	-6.9%
2007-08	$0.78	$0.94	$0.90	$1.09	$1.57	$1.90	$1.59	$1.92	$0.55	$0.66	$1.04	$1.26	7.9%	7.6%
2008-09	$0.74	$0.88	$0.82	$0.98	$1.56	$1.86	$0.59	$0.70	$0.54	$0.64	$0.05	$0.06	2.7%	-0.7%
2009-10	$0.82	$0.95	$1.01	$1.17	$1.83	$2.12	$0.20	$0.23	$0.51	$0.59	-$0.31	-$0.36	0.8%	-3.1%
2010-11	$1.01	$1.13	$1.05	$1.17	$2.06	$2.30	$1.52	$1.69	$0.65	$0.72	$0.87	$0.97	7.0%	7.6%
2011-12	$0.90	$1.00	$0.85	$0.93	$1.75	$1.93	$1.36	$1.50	$0.57	$0.63	$0.78	$0.86	7.6%	8.4%
2012-13	$0.94	$1.01	$0.87	$0.93	$1.81	$1.95	$0.39	$0.42	$0.58	$0.63	-$0.19	-$0.21	2.2%	-2.9%
2013-14	$0.99	$1.03	$0.85	$0.88	$1.83	$1.91	$2.02	$2.11	$0.56	$0.58	$1.46	$1.53	11.3%	14.7%
2014-15	$1.03	$1.06	$0.81	$0.84	$1.84	$1.90	$1.10	$1.13	$0.50	$0.52	$0.59	$0.61	6.1%	4.9%
2015-16	$1.02	$1.03	$0.87	$0.89	$1.89	$1.93	$0.03	$0.03	$0.46	$0.47	-$0.43	-$0.44	-0.1%	-4.4%
2016-17	$1.13	$1.13	$1.07	$1.07	$2.14	$2.14	$0.37	$0.37	$0.59	$0.59	-$0.22	-$0.22	1.0%	-2.0%
Average		$1.02		$1.03		$2.03		$0.86		$0.61		$0.25	4.1%	2.1%

TABLE B10

Historical Data - North

	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per useable area	Milk sold	Milk sold	Estimated grazed pasture*	Estimated conserved feed*	Home grown feed as % of ME consumed	Concentrate price	
	HA	HA	MM/ HA	HD	HD/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	539	365	1.4	430	636	4.3	0.5	48%	$316	$399
2007-08	294	258	490	321	1.1	511	559	3.1	0.7	47%	$398	$481
2008-09	245	195	528	322	1.6	500	784	4.3	0.7	46%	$347	$413
2009-10	216	195	811	282	1.6	515	806	5.0	0.6	51%	$256	$296
2010-11	196	171	1,089	261	1.5	495	762	5.1	2.6	58%	$286	$319
2011-12	193	128	1,035	304	1.9	516	957	7.1	1.1	53%	$267	$294
2012-13	193	123	901	300	1.8	518	961	8.1	1.4	55%	$311	$335
2013-14	210	130	986	332	1.9	522	995	7.6	1.6	57%	$366	$383
2014-15	222	135	856	356	1.9	537	1,020	7.6	1.2	54%	$387	$398
2015-16	234	142	926	367	1.9	527	992	7.1	1.1	50%	$389	$396
2016-17	274	152	1,128	370	1.7	499	827	6.8	1.1	58%	$311	$311
Average	237	178	844	325	1.7	506	845	6.0	1.1	52%		$366

* 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 Income	Gross Farm Income	Total Variable Costs	Total Overhead Costs	Cost Structure (variable/ costs / total costs	Earnings Before Interest & Tax	Return on Assets (excl. capital apprec.)	Interest & 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	$5.10	$1.55	$6.65	$2.71	$2.39	53%	$1.55	4.5%	$0.75	11.3%	$0.79	4.3%
SW0007	$5.29	$0.14	$5.43	$2.36	$2.37	50%	$0.70	4.3%	$0.00	0.0%	$0.70	4.3%
SW0008	$5.32	$0.84	$6.16	$2.53	$2.01	56%	$1.62	4.5%	$0.84	13.6%	$0.78	4.1%
SW0009	$4.97	$0.78	$5.75	$2.42	$2.51	49%	$0.82	3.2%	$0.57	9.8%	$0.25	1.6%
SW0011	***$6.01***	***$0.61***	***$6.62***	***$3.26***	***$1.80***	***64%***	***$1.56***	***6.3%***	***$0.57***	***8.6%***	***$0.99***	***9.4%***
SW0014	$5.90	$0.48	$6.38	$2.82	$2.46	53%	$1.10	4.5%	$0.38	6.0%	$0.72	4.9%
SW0022	$5.39	$1.40	$6.79	$2.87	$2.70	52%	$1.23	3.9%	$0.86	12.6%	$0.37	1.7%
SW0025	***$5.00***	***$1.07***	***$6.07***	***$2.53***	***$1.83***	***58%***	***$1.71***	***5.4%***	***$0.52***	***8.5%***	***$1.19***	***5.6%***
SW0027	***$5.31***	***$0.34***	***$5.65***	***$2.24***	***$1.86***	***55%***	***$1.55***	***6.7%***	***$0.35***	***6.2%***	***$1.20***	***7.2%***
SW0030	$5.66	$0.54	$6.20	$3.04	$2.05	60%	$1.11	3.6%	$0.86	13.9%	$0.24	1.8%
SW0032	$4.93	$0.46	$5.39	$2.61	$2.63	50%	$0.14	0.5%	$0.64	11.8%	-$0.49	- 3.1%
SW0033	$4.96	$0.56	$5.51	$2.17	$3.22	40%	$0.12	0.2%	$0.07	1.3%	$0.05	0.1%
SW0035	***$5.41***	***$0.60***	***$6.01***	***$2.40***	***$1.50***	***62%***	***$2.11***	***8.7%***	***$1.25***	***20.8%***	***$0.86***	***22.2%***
SW0036	$4.80	$0.83	$5.63	$2.36	$2.89	45%	$0.39	0.9%	$0.38	6.7%	$0.01	0.0%
SW0037	$5.47	$0.23	$5.70	$2.93	$2.44	55%	$0.33	1.5%	$0.55	9.6%	-$0.22	- 2.1%
SW0038	$4.82	$0.68	$5.49	$2.70	$1.91	59%	$0.89	3.9%	$0.20	3.6%	$0.69	3.7%
SW0040	***$5.27***	***$0.94***	***$6.21***	***$2.25***	***$2.11***	***52%***	***$1.85***	***7.5%***	***$0.67***	***10.7%***	***$1.19***	***11.9%***
SW0042	$5.00	$1.02	$6.02	$3.50	$2.37	60%	$0.14	0.6%	$0.35	5.7%	-$0.20	-1.6%
SW0043	$5.44	$0.53	$5.97	$2.34	$2.62	47%	$1.02	3.9%	$0.25	4.1%	$0.78	4.1%
SW0044	$4.77	$1.03	$5.81	$2.12	$2.42	47%	$1.27	3.3%	$0.81	14.0%	$0.46	2.0%
SW0045	***$5.58***	***$0.98***	***$6.56***	***$1.78***	***$2.06***	***46%***	***$2.72***	***11.2%***	***$0.40***	***6.1%***	***$2.32***	***14.9%***
SW0046	$4.87	$0.62	$5.49	$2.67	$1.60	63%	$1.22	4.4%	$0.97	17.7%	$0.25	6.0%
SW0047	$4.95	$0.62	$5.58	$2.68	$1.90	58%	$0.99	3.6%	$1.06	19.1%	- $0.08	- 1.0%
SW0049	$5.03	$0.51	$5.54	$2.33	$1.85	56%	$1.37	3.5%	$2.02	36.4%	- $0.65	- 2.6%
SW0050	$5.94	$0.90	$6.83	$3.12	$2.26	58%	$1.45	5.0%	$0.54	7.9%	$0.91	4.9%
Average	$5.25	$0.73	$5.98	$2.59	$2.23	54%	$1.16	4.2%	$0.63	10.6%	$0.52	4.2%
Top 25%*	$5.43	$0.76	$6.19	$2.41	$1.86	56%	$1.92	7.6%	$0.62	10.1%	$1.29	11.9%

* Top 25% are bold and italicised

TABLE C2

Physical information - South West

Farm number	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Fat	Protein
	HA	HA	MM/HA	HD	HD/HA	KG MS/ COW	KG MS/ HA	%	%
SW0001	523	250	984	470	0.9	534	480	3.8%	3.3%
SW0007	116	116	660	100	0.9	481	415	5.3%	4.2%
SW0008	683	494	1,174	890	1.3	482	628	4.1%	3.4%
SW0009	160	160	1,381	245	1.5	539	825	4.1%	3.2%
SW0011	570	450	881	950	1.7	484	807	4.1%	3.4%
SW0014	211	171	1,032	240	1.1	587	667	3.7%	3.2%
SW0022	759	410	761	630	0.8	587	488	3.9%	3.5%
SW0025	***331***	***140***	***827***	***270***	***0.8***	***623***	***508***	***4.0%***	***3.4%***
SW0027	***125***	***99***	***1,001***	***167***	***1.3***	***544***	***727***	***5.3%***	***3.9%***
SW0030	264	180	805	317	1.2	489	587	4.4%	3.7%
SW0032	170	130	869	180	1.1	477	505	5.2%	4.1%
SW0033	146	56	881	92	0.6	422	266	4.5%	3.6%
SW0035	***175***	***135***	***928***	***225***	***1.3***	***560***	***720***	***3.8%***	***3.3%***
SW0036	333	220	993	240	0.7	424	306	4.5%	3.5%
SW0037	459	252	1,214	535	1.2	627	731	4.0%	3.4%
SW0038	100	100	788	140	1.4	641	897	4.0%	3.4%
SW0040	***309***	***244***	***788***	***380***	***1.2***	***558***	***686***	***3.7%***	***3.3%***
SW0042	157	157	1,057	220	1.4	477	668	3.9%	3.3%
SW0043	129	86	1,032	150	1.2	525	611	4.4%	3.6%
SW0044	152	152	964	123	0.8	462	374	3.8%	3.2%
SW0045	***565***	***505***	***800***	***700***	***1.2***	***557***	***690***	***3.7%***	***3.5%***
SW0046	434	290	849	430	1.0	490	485	4.4%	3.5%
SW0047	567	305	1,358	720	1.3	522	663	4.2%	3.6%
SW0049	451	305	1,191	475	1.1	522	550	4.1%	3.3%
SW0050	274	200	1,010	310	1.1	516	584	3.9%	3.2%
Average	326	224	969	368	1.1	525	595	4.2%	3.5%
Top 25%*	346	262	871	449	1.3	554	690	4.1%	3.5%

** On milking area

TABLE C2

Physical information (continued) - South West

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	HD / FTE	KG MS / FTE
SW0001	6.3	1.9	70%	27.8	19.7	1.9	1.6	116	62,056
SW0007	2.5	0.0	56%	0.0	0.0	0.0	0.0	52	25,167
SW0008	4.9	5.5	71%	164.8	18.5	37.1	18.4	136	65,743
SW0009	7.9	3.2	76%	186.9	20.6	39.7	25.6	71	38,086
SW0011	***7.0***	***0.0***	***59%***	***175.1***	***4.6***	***8.9***	***5.8***	***126***	***61,149***
SW0014	3.3	2.9	52%	170.4	16.1	51.7	29.4	68	40,099
SW0022	2.4	1.9	57%	145.4	30.3	8.4	2.7	101	59,499
SW0025	***6.7***	***0.9***	***73%***	***74.7***	***29.1***	***58.4***	***9.3***	***90***	***56,256***
SW0027	***6.4***	***1.6***	***76%***	***87.9***	***24.3***	***71.0***	***30.2***	***103***	***56,077***
SW0030	3.3	2.6	65%	158.4	18.1	103.0	44.8	122	59,710
SW0032	3.8	1.5	61%	36.7	11.2	29.6	13.9	87	41,441
SW0033	5.8	0.9	81%	38.5	6.4	15.9	7.9	73	30,763
SW0035	***7.4***	***2.9***	***65%***	***163.0***	***2.8***	***73.2***	***8.4***	***109***	***61,001***
SW0036	3.9	1.7	79%	134.8	13.0	30.2	85.0	81	34,277
SW0037	6.4	1.2	58%	231.1	21.3	53.3	21.4	84	52,545
SW0038	4.6	2.2	53%	155.4	18.2	63.7	37.8	88	56,323
SW0040	***1.1***	***6.6***	***73%***	***98.1***	***47.3***	***47.4***	***34.8***	***107***	***59,908***
SW0042	3.4	1.2	50%	119.8	27.0	56.0	21.6	92	44,012
SW0043	2.6	3.3	63%	178.7	59.6	66.0	87.4	69	36,450
SW0044	4.2	1.7	78%	51.8	10.5	16.6	11.2	95	43,885
SW0045	***5.3***	***1.1***	***78%***	***124.0***	***23.2***	***38.3***	***20.2***	***116***	***64,490***
SW0046	4.5	1.9	70%	147.1	15.4	31.1	21.1	149	72,793
SW0047	6.0	1.4	66%	99.8	13.6	23.5	9.5	108	56,235
SW0049	5.5	1.1	76%	91.9	8.9	0.0	2.2	119	62,376
SW0050	4.6	0.7	61%	286.0	29.1	60.4	19.4	90	46,648
Average	4.8	2.2	67%	125.9	19.5	39.4	22.8	98	51,480
Top 25%*	5.6	2.6	71%	120.5	21.9	49.5	18.1	109	59,814

TABLE C3

Purchased feed - South West

Farm number	Purchased feed per milker	Concentrate price	Purchased feed as % of ME consumed
	T DM/HD	$/ T DM	% OF ME
SW0001	2.2	$363	30%
SW0007	2.1	$386	44%
SW0008	1.8	$323	29%
SW0009	1.5	$351	24%
SW0011	***2.4***	***$306***	***41%***
SW0014	3.5	$330	48%
SW0022	3.5	$334	43%
SW0025	***2.2***	***$378***	***27%***
SW0027	***1.5***	***$415***	***24%***
SW0030	2.4	$358	35%
SW0032	2.6	$341	39%
SW0033	1.0	$324	19%
SW0035	***2.2***	***$292***	***35%***
SW0036	1.2	$354	21%
SW0037	3.2	$361	42%
SW0038	3.3	$348	47%
SW0040	***2.0***	***$376***	***27%***
SW0042	3.1	$377	50%
SW0043	2.2	$396	37%
SW0044	1.5	$349	22%
SW0045	***1.5***	***$303***	***22%***
SW0046	1.8	$296	30%
SW0047	2.4	$265	34%
SW0049	1.6	$370	24%
SW0050	2.8	$333	39%
Average	2.2	$345	33%
Top 25%*	2.0	$345	29%

TABLE C4

Variable costs - South West

Farm Number	AI & Herd Test	Animal Health	Calf Rearing	Shed Power	Dairy Supplies	Total Herd & Shed Costs	Fertiliser	Irrigation	Hay & Silage Making
	$ / KG MS	$ / KG MS	$ / KG MS	$ / KG MS	$ / KG MS	$ / KG MS	$ / KG MS	$ / KG MS	$ / KG MS
SW0001	$0.09	$0.13	$0.03	$0.07	$0.11	$0.43	$0.30	$0.04	$0.22
SW0007	$0.08	$0.15	$0.01	$0.13	$0.08	$0.45	$0.00	$0.00	$0.00
SW0008	$0.06	$0.14	$0.03	$0.13	$0.10	$0.46	$0.48	$0.02	$0.34
SW0009	$0.06	$0.13	$0.00	$0.14	$0.09	$0.44	$0.39	$0.02	$0.17
SW0011	***$0.09***	***$0.13***	***$0.05***	***$0.12***	***$0.11***	***$0.50***	***$0.36***	***$0.00***	***$0.26***
SW0014	$0.12	$0.09	$0.01	$0.05	$0.05	$0.32	$0.53	$0.00	$0.26
SW0022	$0.09	$0.17	$0.16	$0.08	$0.13	$0.63	$0.23	$0.00	$0.25
SW0025	***$0.10***	***$0.16***	***$0.01***	***$0.08***	***$0.05***	***$0.40***	***$0.43***	***$0.00***	***$0.12***
SW0027	***$0.07***	***$0.11***	***$0.00***	***$0.07***	***$0.11***	***$0.37***	***$0.36***	***$0.00***	***$0.20***
SW0030	$0.15	$0.06	$0.00	$0.14	$0.10	$0.45	$0.37	$0.01	$0.07
SW0032	$0.07	$0.08	$0.10	$0.09	$0.06	$0.41	$0.23	$0.00	$0.12
SW0033	$0.13	$0.09	$0.01	$0.09	$0.17	$0.49	$0.40	$0.00	$0.23
SW0035	***$0.11***	***$0.09***	***$0.00***	***$0.11***	***$0.07***	***$0.38***	***$0.54***	***$0.00***	***$0.23***
SW0036	$0.15	$0.18	$0.02	$0.14	$0.21	$0.71	$0.57	$0.00	$0.45
SW0037	$0.10	$0.24	$0.03	$0.09	$0.16	$0.61	$0.46	$0.06	$0.20
SW0038	$0.07	$0.16	$0.06	$0.08	$0.08	$0.44	$0.35	$0.00	$0.14
SW0040	***$0.12***	***$0.11***	***$0.00***	***$0.09***	***$0.04***	***$0.35***	***$0.27***	***$0.00***	***$0.08***
SW0042	$0.03	$0.13	$0.01	$0.07	$0.12	$0.37	$0.45	$0.00	$0.08
SW0043	$0.04	$0.04	$0.06	$0.14	$0.09	$0.38	$0.28	$0.00	$0.03
SW0044	$0.15	$0.02	$0.00	$0.15	$0.06	$0.39	$0.52	$0.00	$0.32
SW0045	***$0.08***	***$0.09***	***$0.09***	***$0.06***	***$0.16***	***$0.47***	***$0.36***	***$0.00***	***$0.12***
SW0046	$0.14	$0.17	$0.02	$0.10	$0.10	$0.53	$0.62	$0.00	$0.38
SW0047	$0.05	$0.11	$0.01	$0.11	$0.09	$0.37	$0.28	$0.00	$0.33
SW0049	$0.14	$0.08	$0.12	$0.07	$0.04	$0.46	$0.31	$0.03	$0.09
SW0050	$0.13	$0.16	$0.03	$0.11	$0.10	$0.52	$0.74	$0.00	$0.16
Average	$0.10	$0.12	$0.03	$0.10	$0.10	$0.45	$0.39	$0.01	$0.19
Top 25%*	$0.10	$0.11	$0.02	$0.09	$0.09	$0.41	$0.39	$0.00	$0.17

Farm number	Fuel and oil	Pasture improvement/ cropping	Other feed costs	Fodder purchases	Grain/ concentrates/ other	Agistment costs	Total feed costs	Total variable costs
	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS
SW0001	$0.16	$0.21	$0.00	$0.09	$1.34	$0.00	$2.28	$2.71
SW0007	$0.06	$0.01	$0.00	$0.39	$1.37	$0.41	$1.91	$2.36
SW0008	$0.16	$0.35	$0.14	$0.15	$1.09	$0.00	$2.06	$2.53
SW0009	$0.13	$0.20	$0.00	$0.00	$1.03	$0.26	$1.98	$2.42
SW0011	***$0.04***	***$0.11***	***$0.11***	***$0.36***	***$1.10***	***$0.51***	***$2.77***	***$3.26***
SW0014	$0.12	$0.04	$0.00	$0.39	$1.45	$0.00	$2.51	$2.82
SW0022	$0.07	$0.25	$0.31	$0.32	$1.64	$0.00	$2.23	$2.87
SW0025	***$0.10***	***$0.13***	***$0.00***	***$0.21***	***$1.33***	***$0.00***	***$2.13***	***$2.53***
SW0027	***$0.05***	***$0.34***	***$0.02***	***$0.10***	***$0.96***	***$0.00***	***$1.87***	***$2.24***
SW0030	$0.16	$0.22	$0.07	$0.23	$1.46	$0.08	$2.59	$3.04
SW0032	$0.07	$0.00	$0.00	$0.14	$1.65	$0.00	$2.21	$2.61
SW0033	$0.10	$0.30	$0.00	$0.00	$0.83	$0.00	$1.68	$2.17
SW0035	***$0.09***	***$0.19***	***$0.00***	***$0.00***	***$1.16***	***$0.09***	***$2.02***	***$2.40***
SW0036	$0.28	$0.00	$0.01	$0.00	$1.01	$0.00	$1.64	$2.36
SW0037	$0.08	$0.21	$0.00	$0.21	$1.58	$0.00	$2.32	$2.93
SW0038	$0.06	$0.12	$0.01	$0.15	$1.61	$0.01	$2.26	$2.70
SW0040	***$0.13***	***$0.26***	***$0.17***	***$0.03***	***$1.34***	***$0.00***	***$1.90***	***$2.25***
SW0042	$0.09	$0.12	$0.00	$0.30	$1.92	$0.15	$3.13	$3.50
SW0043	$0.09	$0.06	$0.04	$0.23	$1.43	$0.00	$1.95	$2.34
SW0044	$0.09	$0.10	$0.00	$0.00	$1.11	$0.00	$1.73	$2.12
SW0045	***$0.06***	***$0.05***	***$0.08***	***$0.00***	***$0.97***	***$0.00***	***$1.31***	***$1.78***
SW0046	$0.08	$0.08	$0.03	$0.00	$1.10	$0.00	$2.14	$2.67
SW0047	$0.06	$0.17	$0.01	$0.09	$1.00	$0.16	$2.31	$2.68
SW0049	$0.14	$0.16	$0.01	$0.00	$1.16	$0.00	$1.86	$2.33
SW0050	$0.11	$0.29	$0.00	$0.19	$1.58	$0.00	$2.60	$3.12
Average	$0.10	$0.16	$0.04	$0.14	$1.29	$0.07	$2.14	$2.59
Top 25%*	$0.08	$0.18	$0.06	$0.12	$1.14	$0.10	$2.00	$2.41

TABLE C5

Overhead costs - South West

Farm Number	Rates	Registration & Insurance	Repairs & Maintenance	Other Overheads	Employed Labour	Total Cash Overheads	Depreciation	Imputed Owner / Operator & Family Labour	Total Overheads
	$/KG MS	$/KG MS	$/KG MS	$/KG MS	$/KG MS	$/KG MS	$/KG MS	$/KG MS	$/KG MS
SW0001	$0.04	$0.09	$0.45	$0.10	$0.67	$1.36	$0.62	$0.41	$2.39
SW0007	$0.08	$0.08	$0.09	$0.13	$1.72	$2.10	$0.12	$0.15	$2.37
SW0008	$0.03	$0.15	$0.41	$0.07	$0.61	$1.28	$0.39	$0.35	$2.01
SW0009	$0.07	$0.05	$0.32	$0.07	$0.00	$0.51	$0.24	$1.76	$2.51
SW0011	***$0.04***	***$0.04***	***$0.24***	***$0.22***	***$1.11***	***$1.64***	***$0.16***	***$0.00***	***$1.80***
SW0014	$0.06	$0.05	$0.41	$0.06	$0.90	$1.48	$0.28	$0.70	$2.46
SW0022	$0.10	$0.07	$0.42	$0.20	$0.50	$1.28	$0.77	$0.65	$2.70
SW0025	***$0.04***	***$0.06***	***$0.24***	***$0.12***	***$0.65***	***$1.11***	***$0.26***	***$0.46***	***$1.83***
SW0027	***$0.06***	***$0.20***	***$0.17***	***$0.05***	***$0.06***	***$0.55***	***$0.17***	***$1.14***	***$1.86***
SW0030	$0.09	$0.02	$0.15	$0.18	$0.11	$0.55	$0.49	$1.02	$2.05
SW0032	$0.05	$0.05	$0.49	$0.30	$0.20	$1.08	$0.10	$1.45	$2.63
SW0033	$0.10	$0.22	$0.25	$0.14	$0.07	$0.78	$0.32	$2.12	$3.22
SW0035	***$0.00***	***$0.04***	***$0.43***	***$0.07***	***$0.19***	***$0.73***	***-$0.15***	***$0.92***	***$1.50***
SW0036	$0.13	$0.11	$0.64	$0.13	$0.76	$1.77	$0.30	$0.83	$2.89
SW0037	$0.05	$0.07	$0.66	$0.04	$0.70	$1.51	$0.39	$0.53	$2.44
SW0038	$0.05	$0.04	$0.23	$0.09	$0.16	$0.57	$0.27	$1.07	$1.91
SW0040	***$0.07***	***$0.09***	***$0.19***	***$0.17***	***$0.90***	***$1.42***	***$0.24***	***$0.45***	***$2.11***
SW0042	$0.07	$0.07	$0.53	$0.07	$0.49	$1.24	$0.16	$0.97	$2.37
SW0043	$0.05	$0.14	$0.12	$0.11	$0.05	$0.48	$0.31	$1.83	$2.62
SW0044	$0.12	$0.12	$0.16	$0.13	$0.00	$0.52	$0.37	$1.53	$2.42
SW0045	***$0.04***	***$0.06***	***$0.30***	***$0.27***	***$0.60***	***$1.26***	***$0.41***	***$0.39***	***$2.06***
SW0046	$0.02	$0.09	$0.40	$0.05	$0.54	$1.10	$0.19	$0.31	$1.60
SW0047	$0.05	$0.05	$0.26	$0.09	$0.80	$1.25	$0.29	$0.37	$1.90
SW0049	$0.05	$0.07	$0.28	$0.12	$0.31	$0.83	$0.34	$0.68	$1.85
SW0050	$0.08	$0.14	$0.42	$0.09	$0.75	$1.48	$0.17	$0.61	$2.26
Average	$0.06	$0.09	$0.33	$0.12	$0.51	$1.11	$0.29	$0.83	$2.23
Top 25%*	$0.04	$0.08	$0.26	$0.15	$0.58	$1.12	$0.18	$0.56	$1.86

TABLE C6

Variable costs - South West

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd & 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	1.7%	2.5%	0.5%	1.5%	2.3%	8.4%	5.8%	0.7%	4.2%
SW0007	1.7%	3.1%	0.2%	2.8%	1.7%	9.5%	0.0%	0.0%	0.0%
SW0008	1.3%	3.2%	0.7%	2.8%	2.2%	10.1%	10.5%	0.4%	7.5%
SW0009	1.3%	2.7%	0.0%	2.9%	1.9%	8.8%	8.0%	0.3%	3.4%
SW0011	***1.8%***	***2.5%***	***1.0%***	***2.3%***	***2.2%***	***9.9%***	***7.0%***	***0.0%***	***5.1%***
SW0014	2.3%	1.6%	0.1%	1.0%	1.0%	6.0%	10.1%	0.0%	4.9%
SW0022	1.7%	3.0%	2.9%	1.4%	2.3%	11.3%	4.1%	0.0%	4.6%
SW0025	***2.4%***	***3.6%***	***0.1%***	***1.9%***	***1.1%***	***9.1%***	***9.9%***	***0.0%***	***2.7%***
SW0027	***1.8%***	***2.7%***	***0.0%***	***1.8%***	***2.7%***	***9.0%***	***8.7%***	***0.0%***	***4.9%***
SW0030	3.0%	1.2%	0.0%	2.8%	1.9%	8.9%	7.3%	0.1%	1.4%
SW0032	1.3%	1.5%	2.0%	1.8%	1.2%	7.7%	4.4%	0.0%	2.2%
SW0033	2.4%	1.7%	0.2%	1.7%	3.1%	9.2%	7.4%	0.0%	4.3%
SW0035	***2.7%***	***2.3%***	***0.0%***	***2.9%***	***1.8%***	***9.7%***	***13.9%***	***0.0%***	***6.0%***
SW0036	2.9%	3.5%	0.4%	2.7%	4.1%	13.6%	10.9%	0.0%	8.5%
SW0037	1.8%	4.4%	0.5%	1.7%	3.0%	11.3%	8.7%	1.1%	3.8%
SW0038	1.5%	3.4%	1.2%	1.7%	1.8%	9.5%	7.6%	0.0%	3.0%
SW0040	***2.7%***	***2.5%***	***0.1%***	***2.0%***	***0.8%***	***8.1%***	***6.2%***	***0.0%***	***1.8%***
SW0042	0.5%	2.3%	0.3%	1.2%	2.0%	6.2%	7.7%	0.0%	1.4%
SW0043	0.9%	0.8%	1.2%	2.9%	1.9%	7.7%	5.6%	0.0%	0.5%
SW0044	3.2%	0.5%	0.0%	3.3%	1.4%	8.5%	11.4%	0.0%	7.1%
SW0045	***2.0%***	***2.2%***	***2.2%***	***1.6%***	***4.3%***	***12.3%***	***9.4%***	***0.0%***	***3.0%***
SW0046	3.3%	3.9%	0.4%	2.4%	2.3%	12.5%	14.6%	0.0%	9.0%
SW0047	1.1%	2.3%	0.2%	2.4%	2.0%	8.1%	6.0%	0.0%	7.3%
SW0049	3.4%	2.0%	2.9%	1.7%	1.0%	11.1%	7.5%	0.8%	2.3%
SW0050	2.4%	3.0%	0.5%	2.0%	1.8%	9.7%	13.7%	0.0%	3.0%
Average	2.0%	2.5%	0.7%	2.1%	2.1%	9.4%	8.3%	0.1%	4.1%
Top 25%*	2.2%	2.6%	0.6%	2.1%	2.2%	9.7%	9.2%	0.0%	3.9%

Farm number	Fuel and oil	Pasture improvement/ cropping	Other feed costs	Fodder purchases	Grain/ concentrates/ other	Agistment costs	Total feed costs	Total variable costs
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
SW0001	3.2%	4.1%	0.0%	1.7%	26.3%	0.0%	44.8%	53.2%
SW0007	1.3%	0.1%	0.0%	8.2%	28.9%	8.8%	40.3%	49.8%
SW0008	3.5%	7.7%	3.0%	3.4%	23.9%	0.0%	45.3%	55.7%
SW0009	2.7%	4.1%	0.0%	0.0%	20.9%	5.2%	40.2%	49.0%
SW0011	***0.7%***	***2.1%***	***2.1%***	***7.1%***	***21.8%***	***10.1%***	***54.6%***	***64.5%***
SW0014	2.3%	0.8%	0.0%	7.4%	27.5%	0.0%	47.5%	53.4%
SW0022	1.2%	4.5%	5.5%	5.8%	29.5%	0.0%	40.2%	51.5%
SW0025	***2.4%***	***3.0%***	***0.0%***	***4.8%***	***30.5%***	***0.0%***	***49.0%***	***58.0%***
SW0027	***1.2%***	***8.2%***	***0.5%***	***2.4%***	***23.4%***	***0.0%***	***45.6%***	***54.6%***
SW0030	3.1%	4.4%	1.3%	4.5%	28.7%	1.5%	50.8%	59.7%
SW0032	1.3%	0.0%	0.0%	2.7%	31.6%	0.0%	42.1%	49.8%
SW0033	1.8%	5.6%	0.0%	0.0%	15.3%	0.0%	31.1%	40.3%
SW0035	***2.2%***	***4.8%***	***0.0%***	***0.0%***	***29.7%***	***2.4%***	***51.9%***	***61.6%***
SW0036	5.3%	0.0%	0.1%	0.0%	19.3%	0.0%	31.3%	44.9%
SW0037	1.5%	3.8%	0.0%	4.0%	29.4%	0.0%	43.3%	54.6%
SW0038	1.3%	2.7%	0.2%	3.3%	34.9%	0.2%	49.0%	58.6%
SW0040	***2.9%***	***5.9%***	***3.9%***	***0.8%***	***30.8%***	***0.0%***	***43.6%***	***51.7%***
SW0042	1.6%	2.0%	0.0%	5.0%	32.7%	2.5%	53.4%	59.6%
SW0043	1.8%	1.2%	0.7%	4.6%	28.8%	0.0%	39.5%	47.2%
SW0044	2.0%	2.3%	0.1%	0.0%	24.5%	0.0%	38.2%	46.7%
SW0045	***1.6%***	***1.3%***	***2.1%***	***0.0%***	***25.4%***	***0.0%***	***34.0%***	***46.3%***
SW0046	1.9%	1.8%	0.6%	0.0%	25.8%	0.0%	50.1%	62.6%
SW0047	1.3%	3.6%	0.2%	1.9%	21.8%	3.5%	50.4%	58.5%
SW0049	3.4%	3.8%	0.3%	0.0%	27.9%	0.0%	44.6%	55.7%
SW0050	2.0%	5.3%	0.0%	3.5%	29.4%	0.0%	48.3%	58.0%
Average	2.1%	3.3%	0.8%	2.8%	26.7%	1.4%	44.4%	53.8%
Top 25%*	1.8%	4.2%	1.4%	2.5%	26.9%	2.1%	46.4%	56.1%

TABLE C7

Overhead costs - South West

Farm number	Rates	Registration & insurance	Repairs & maintenance	Other overheads	Employed Labour	Total cash overheads	Depreciation	Imputed owner / operator & family labour	Total overheads
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
SW0001	0.8%	1.8%	8.8%	2.0%	13.2%	26.6%	12.2%	8.1%	46.8%
SW0007	1.6%	1.7%	1.9%	2.8%	36.4%	44.4%	2.5%	3.3%	50.2%
SW0008	0.7%	3.3%	9.0%	1.6%	13.5%	28.0%	8.6%	7.6%	44.3%
SW0009	1.5%	1.0%	6.5%	1.4%	0.0%	10.3%	4.9%	35.8%	51.0%
SW0011	***0.8%***	***0.8%***	***4.6%***	***4.3%***	***21.9%***	***32.4%***	***3.1%***	***0.0%***	***35.5%***
SW0014	1.1%	1.0%	7.7%	1.1%	17.1%	28.0%	5.4%	13.2%	46.6%
SW0022	1.7%	1.2%	7.5%	3.6%	8.9%	23.0%	13.8%	11.7%	48.5%
SW0025	***1.0%***	***1.3%***	***5.6%***	***2.7%***	***14.9%***	***25.5%***	***5.9%***	***10.5%***	***42.0%***
SW0027	***1.5%***	***5.0%***	***4.1%***	***1.3%***	***1.5%***	***13.4%***	***4.2%***	***27.9%***	***45.4%***
SW0030	1.7%	0.5%	2.9%	3.5%	2.1%	10.8%	9.6%	19.9%	40.3%
SW0032	1.0%	0.9%	9.3%	5.7%	3.7%	20.6%	2.0%	27.6%	50.2%
SW0033	1.9%	4.1%	4.6%	2.5%	1.3%	14.4%	6.0%	39.3%	59.7%
SW0035	***0.0%***	***1.0%***	***10.9%***	***1.9%***	***4.9%***	***18.7%***	***-3.9%***	***23.6%***	***38.4%***
SW0036	2.4%	2.0%	12.2%	2.5%	14.6%	33.7%	5.7%	15.7%	55.1%
SW0037	0.9%	1.3%	12.3%	0.7%	13.0%	28.2%	7.3%	9.9%	45.4%
SW0038	1.1%	0.9%	4.9%	2.1%	3.4%	12.4%	5.8%	23.3%	41.4%
SW0040	***1.7%***	***2.2%***	***4.2%***	***3.9%***	***20.6%***	***32.6%***	***5.4%***	***10.3%***	***48.3%***
SW0042	1.2%	1.2%	9.1%	1.2%	8.4%	21.1%	2.8%	16.5%	40.4%
SW0043	1.0%	2.9%	2.5%	2.2%	1.1%	9.7%	6.2%	36.9%	52.8%
SW0044	2.6%	2.6%	3.4%	2.8%	0.0%	11.5%	8.0%	33.7%	53.3%
SW0045	***0.9%***	***1.4%***	***7.8%***	***7.1%***	***15.6%***	***32.9%***	***10.7%***	***10.1%***	***53.7%***
SW0046	0.5%	2.2%	9.5%	1.1%	12.5%	25.8%	4.5%	7.2%	37.4%
SW0047	1.0%	1.1%	5.8%	2.0%	17.3%	27.2%	6.4%	8.0%	41.5%
SW0049	1.2%	1.6%	6.7%	2.9%	7.5%	20.0%	8.1%	16.3%	44.3%
SW0050	1.4%	2.7%	7.8%	1.6%	13.9%	27.4%	3.2%	11.4%	42.0%
Average	1.3%	1.8%	6.8%	2.6%	10.7%	23.1%	5.9%	17.1%	46.2%
Top 25%*	1.0%	1.9%	6.2%	3.5%	13.2%	25.9%	4.3%	13.7%	43.9%

TABLE C8

Capital Structure - South West

	Farm Assets				Other farm assets (per usable hectare)				
	Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	Total assets
	$/HA	$/COW	$/HA	$/COW	$/HA	$/HA	$/HA	$/HA	$/HA
Average	$11,692	$10,236	$1,936	$1,568	$1,429	$2,393	$154	$644	$15,129
Top 25%*	$9,993	$8,200			$1,535	$2,695	$136	$387	$14,698

	Liabilities		Equity	
	Liabilities per usable hectare	Liabilities per milking cow	Equity per usable hectare	Average equity
	$/HA	$/COW	$/HA	%
Average	$5,859	$5,114	$9,505	64%
Top 25%*	$6,065	$4,846	$8,633	62%

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	$5.44	$5.05	$6.38	$0.19	$0.23	$0.13	$0.17	$2.61	$3.30	$2.97	$3.75
2007-08	$6.56	$7.93	$7.91	$9.56	$0.21	$0.26	$0.14	$0.17	$2.95	$3.57	$3.32	$4.02
2008-09	$5.40	$6.43	$6.13	$7.30	$0.22	$0.26	$0.15	$0.18	$2.55	$3.04	$2.93	$3.48
2009-10	$4.55	$5.26	$5.23	$6.05	$0.21	$0.24	$0.16	$0.19	$2.00	$2.31	$2.37	$2.73
2010-11	$5.62	$6.27	$6.34	$7.07	$0.21	$0.23	$0.18	$0.20	$2.10	$2.34	$2.48	$2.77
2011-12	$5.56	$6.12	$5.97	$6.58	$0.23	$0.25	$0.21	$0.23	$2.35	$2.59	$2.79	$3.08
2012-13	$4.90	$5.28	$5.24	$5.64	$0.24	$0.26	$0.21	$0.23	$2.60	$2.80	$3.06	$3.30
2013-14	$6.91	$7.22	$7.54	$7.88	$0.25	$0.26	$0.23	$0.24	$2.90	$3.03	$3.37	$3.52
2014-15	$6.16	$6.34	$6.70	$6.90	$0.25	$0.26	$0.20	$0.21	$2.88	$2.97	$3.34	$3.44
2015-16	$5.47	$5.57	$5.95	$6.06	$0.24	$0.25	$0.19	$0.20	$3.14	$3.20	$3.57	$3.64
2016-17	$5.25	$5.25	$5.98	$5.98	$0.25	$0.25	$0.20	$0.20	$2.14	$2.14	$2.59	$2.59
Average		$6.10		$6.85		$0.25		$0.20		$2.84		$3.30

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

	Overhead costs						Profits							
	Cash overhead costs		Non-cash overhead costs		Total overhead costs		Earnings before interest & tax		Interest & lease charges		Net farm income			
	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)	RETURN ON ASSETS	RETURN ON EQUITY
2006-07	$0.79	$1.00	$0.99	$1.25	$1.78	$2.25	$0.30	$0.38	$0.59	$0.75	-$0.29	-$0.37	1.0%	-3.3%
2007-08	$0.95	$1.15	$0.84	$1.02	$1.69	$2.05	$2.89	$3.49	$0.72	$0.88	$2.17	$2.62	11.2%	14.8%
2008-09	$0.92	$1.10	$0.89	$1.06	$1.81	$2.15	$1.32	$1.58	$0.69	$0.82	$0.63	$0.75	4.5%	3.7%
2009-10	$0.89	$1.03	$1.03	$1.20	$1.92	$2.22	$0.91	$1.05	$0.80	$0.93	$0.10	$0.12	3.0%	1.3%
2010-11	$1.06	$1.18	$1.08	$1.21	$2.14	$2.39	$1.71	$1.91	$0.95	$1.06	$0.77	$0.85	5.5%	5.8%
2011-12	$1.11	$1.22	$1.29	$1.42	$2.40	$2.64	$0.78	$0.86	$0.90	$0.99	-$0.12	-$0.13	3.3%	-0.2%
2012-13	$0.95	$1.02	$1.20	$1.29	$2.15	$2.32	$0.03	$0.03	$0.78	$0.84	-$0.75	-$0.81	0.2%	-12.7%
2013-14	$1.14	$1.19	$1.00	$1.05	$2.14	$2.24	$2.03	$2.12	$0.69	$0.73	$1.33	$1.39	7.9%	9.9%
2014-15	$1.15	$1.19	$0.92	$0.95	$2.08	$2.14	$1.28	$1.32	$0.62	$0.64	$0.66	$0.68	5.2%	6.2%
2015-16	$1.10	$1.12	$1.10	$1.12	$2.19	$2.23	$0.18	$0.19	$0.68	$0.69	-$0.49	-$0.50	0.6%	-2.8%
2016-17	$1.11	$1.11	$1.12	$1.12	$2.23	$2.23	$1.16	$1.16	$0.63	$0.63	$0.53	$0.53	4.2%	4.3%
Average		$1.12		$1.15		$2.26		$1.28		$0.81		$0.47	4.2%	2.4%

TABLE C10

Historical Data - South West

	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per useable area	Milk sold	Milk sold	Estimated grazed pasture*	Estimated conserved feed*	Home grown feed as % of ME consumed	Concentrate price	
	HA	HA	MM/HA	HD	HD/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	622	386	1.4	500	688	4.8	1.1	61%	$332	$419
2007-08	320	317	728	387	1.2	489	591	5.1	1.3	71%	$425	$514
2008-09	330	328	719	384	1.3	510	649	5.3	1.2	68%	$390	$464
2009-10	302	298	868	366	1.3	503	665	6.0	1.0	71%	$287	$332
2010-11	322	319	1,099	369	1.2	491	585	5.1	1.6	67%	$302	$337
2011-12	327	225	687	387	1.2	507	605	4.2	1.0	55%	$309	$340
2012-13	308	205	647	369	1.2	506	601	4.0	1.5	58%	$342	$368
2013-14	330	214	951	390	1.2	503	600	4.6	1.5	62%	$395	$412
2014-15	333	223	643	389	1.2	525	627	4.5	1.2	59%	$408	$420
2015-16	320	222	689	378	1.2	523	625	3.4	1.5	51%	$400	$408
2016-17	326	224	969	368	1.1	525	595	4.8	2.2	67%	$345	$345
Average	319	260	784	379	1.2	507	621	4.7	1.4	63%		$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 D1

Main financial indicators - Gippsland

Farm number	Milk income (net)	All other income	Gross farm income	Total variable costs	Total overhead costs	Cost structure (variable costs / total costs)	Earnings Before Interest & Tax	Return on assets (excl. capital apprec.)	Interest & 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	$4.43	-$0.61	$3.83	$2.63	$3.32	44%	-$2.13	-6.1%	$1.02	27%	-$3.15	-20.0%
GI0005	$4.56	$0.83	$5.39	$2.07	$3.00	41%	$0.32	0.8%	$0.58	11%	-$0.26	-1.2%
GI0011	$4.86	$0.66	$5.51	$2.85	$1.99	59%	$0.68	1.4%	$1.12	20%	-$0.44	-2.5%
GI0012	$4.94	$0.41	$5.36	$2.26	$2.63	46%	$0.47	0.8%	$0.57	11%	-$0.10	-0.3%
GI0017	$4.42	$0.82	$5.24	$3.40	$3.05	53%	-$1.21	-3.7%	$0.21	4%	-$1.42	-6.6%
GI0021	$4.77	$0.80	$5.57	$2.74	$2.18	56%	$0.64	2.1%	$1.13	20%	-$0.49	-5.0%
GI0022	$4.72	$0.88	$5.60	$3.10	$2.15	59%	$0.36	0.9%	$0.63	11%	-$0.27	-1.1%
GI0023	$5.01	$0.63	$5.64	$2.88	$1.85	61%	$0.92	3.4%	$0.55	10%	$0.36	3.3%
GI0025	$4.59	$1.17	$5.76	$2.25	$2.14	51%	$1.37	3.5%	$0.80	14%	$0.58	3.1%
GI0028	$4.94	$0.74	$5.68	$3.15	$1.88	63%	$0.65	2.0%	$0.75	13%	-$0.10	-0.8%
GI0029	***$4.54***	***$0.94***	***$5.48***	***$2.28***	***$1.89***	***55%***	***$1.32***	***4.5%***	***$0.31***	***6%***	***$1.01***	***4.3%***
GI0031	$4.74	$0.49	$5.22	$3.03	$1.62	65%	$0.57	3.3%	$0.23	4%	$0.34	2.6%
GI0032	$4.83	$0.93	$5.76	$2.99	$2.63	53%	$0.13	0.4%	$0.16	3%	-$0.02	-0.1%
GI0039	$5.11	$0.83	$5.94	$2.79	$1.93	59%	$1.22	4.1%	$0.88	15%	$0.34	14.0%
GI0041	***$4.69***	***$0.74***	***$5.43***	***$2.03***	***$1.59***	***56%***	***$1.80***	***6.0%***	***$0.27***	***5%***	***$1.53***	***6.1%***
GI0045	$4.94	$0.89	$5.83	$2.79	$1.87	60%	$1.17	2.5%	$0.96	17%	$0.21	1.6%
GI0046	$4.64	$0.45	$5.10	$2.14	$2.18	49%	$0.78	2.6%	$0.91	18%	-$0.13	-1.1%
GI0048	***$5.01***	***$0.53***	***$5.54***	***$2.46***	***$1.27***	***66%***	***$1.81***	***5.3%***	***$0.40***	***7%***	***$1.40***	***7.3%***
GI0049	***$5.10***	***$0.88***	***$5.98***	***$2.78***	***$1.84***	***60%***	***$1.35***	***6.6%***	***$0.81***	***13%***	***$0.54***	***7.1%***
GI0051	$5.58	$0.62	$6.20	$3.20	$2.48	56%	$0.52	1.2%	$1.48	24%	-$0.96	-10.3%
GI0052	$5.05	$0.67	$5.72	$3.16	$2.18	59%	$0.38	1.1%	$0.75	13%	-$0.37	-1.7%
GI0053	$4.66	$0.28	$4.93	$2.87	$1.47	66%	$0.60	3.0%	$0.34	7%	$0.25	1.9%
GI0054	***$5.24***	***$0.72***	***$5.96***	***$2.48***	***$1.50***	***62%***	***$1.97***	***5.0%***	***$0.66***	***11%***	***$1.31***	***8.0%***
GI0055	$5.04	$0.99	$6.03	$2.73	$2.44	53%	$0.85	2.3%	$0.78	13%	$0.08	1.1%
GI0056	***$4.53***	***$0.39***	***$4.92***	***$1.86***	***$1.40***	***57%***	***$1.66***	***5.7%***	***$0.58***	***12%***	***$1.08***	***7.4%***
Average	$4.84	$0.67	$5.50	$2.68	$2.10	56%	$0.73	2.3%	$0.68	12%	$0.05	0.7%
Top 25%*	$4.85	$0.70	$5.55	$2.32	$1.58	59%	$1.65	5.5%	$0.50	9%	$1.15	6.7%

* Top 25% are bold and italicised

TABLE D2

Physical information - Gippsland

Farm number	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Fat	Protein
	HA	HA	MM/HA	HD	HD/HA	KG MS/ COW	KG MS/ HA	%	%
GI0004	143	135	984	230	1.6	268	431	4.4%	3.4%
GI0005	119	91	891	171	1.4	366	526	4.0%	3.2%
GI0011	115	75	945	135	1.2	476	559	4.0%	3.4%
GI0012	100	70	920	160	1.6	522	836	4.1%	3.4%
GI0017	245	161	807	203	0.8	413	342	4.1%	3.2%
GI0021	255	163	988	390	1.5	479	732	5.0%	4.0%
GI0022	423	280	871	435	1.0	533	548	3.9%	3.5%
GI0023	200	90	1,320	320	1.6	577	923	4.0%	3.4%
GI0025	177	85	1,127	300	1.7	406	688	4.7%	3.5%
GI0028	180	99	952	240	1.3	526	702	4.0%	3.5%
GI0029	***79***	***79***	***1,264***	***233***	***2.9***	***481***	***1,419***	***4.6%***	***3.4%***
GI0031	73	73	510	310	4.2	487	2,070	4.2%	3.6%
GI0032	155	110	1,008	280	1.8	531	959	4.1%	3.3%
GI0039	193	120	981	270	1.4	517	723	4.2%	3.6%
GI0041	***266***	***153***	***983***	***380***	***1.4***	***474***	***677***	***4.6%***	***3.7%***
GI0045	315	165	906	385	1.2	446	545	5.0%	3.9%
GI0046	185	122	988	210	1.1	519	589	3.8%	3.5%
GI0048	***342***	***180***	***906***	***520***	***1.5***	***521***	***792***	***4.1%***	***3.5%***
GI0049	***72***	***72***	***1,009***	***244***	***3.4***	***465***	***1,577***	***4.6%***	***3.7%***
GI0051	287	174	906	320	1.1	556	620	4.1%	3.3%
GI0052	100	80	856	141	1.4	580	818	4.7%	3.7%
GI0053	***92***	***92***	***967***	***313***	***3.4***	***533***	***1,814***	***4.4%***	***3.5%***
GI0054	***482***	***180***	***874***	***500***	***1.0***	***518***	***538***	***4.7%***	***3.5%***
GI0055	283	74	972	254	0.9	542	487	4.2%	3.6%
GI0056	***189***	***125***	***896***	***296***	***1.6***	***415***	***650***	***5.4%***	***3.9%***
Average	203	122	953	290	1.7	486	823	4.4%	3.5%
Top 25%*	238	132	989	362	2.0	479	942	4.7%	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	HD/ FTE	KG MS/ FTE
GI0004	6.3	1.4	75%	25.9	9.8	12.9	8.6	94	25,139
GI0005	6.3	0.9	76%	3.0	2.0	3.9	0.1	81	29,496
GI0011	7.0	0.0	69%	40.0	17.1	46.0	21.2	113	53,704
GI0012	8.0	1.3	72%	154.7	27.3	62.0	32.8	69	35,977
GI0017	4.4	0.4	78%	22.4	14.6	41.6	18.0	83	34,480
GI0021	6.3	2.2	71%	193.0	3.0	11.6	3.8	99	47,250
GI0022	6.4	0.1	75%	58.8	26.2	16.6	25.9	120	64,157
GI0023	9.9	1.3	64%	185.7	3.0	9.6	3.0	78	44,830
GI0025	10.7	2.0	77%	226.2	10.0	85.0	8.1	115	46,757
GI0028	5.7	1.2	62%	194.4	9.4	65.6	13.3	97	51,255
GI0029	***11.9***	***0.2***	***76%***	***265.8***	***17.7***	***13.9***	***3.8***	***109***	***52,625***
GI0031	11.7	0.9	53%	363.8	1.6	0.0	0.1	155	75,552
GI0032	7.3	2.2	70%	238.0	38.0	73.2	47.2	98	52,137
GI0039	6.2	2.2	63%	245.7	15.4	65.4	12.2	113	58,584
GI0041	***6.3***	***2.0***	***70%***	***127.7***	***11.9***	***27.0***	***15.5***	***131***	***61,950***
GI0045	4.2	1.0	70%	113.4	9.0	9.1	6.6	122	54,545
GI0046	5.8	1.4	71%	93.2	19.2	25.0	22.6	95	49,322
GI0048	***7.2***	***0.9***	***65%***	***240.1***	***0.0***	***0.0***	***16.4***	***131***	***68,106***
GI0049	***12.7***	***0.2***	***70%***	***205.2***	***12.5***	***24.3***	***16.2***	***126***	***58,718***
GI0051	6.8	2.4	79%	230.3	7.0	17.4	8.4	74	41,362
GI0052	5.5	2.6	65%	236.3	9.1	6.7	12.7	114	66,115
GI0053	11.0	0.5	60%	415.0	0.0	0.0	0.0	127	67,848
GI0054	***8.6***	***2.9***	***71%***	***129.5***	***11.4***	***37.0***	***14.2***	***135***	***70,088***
GI0055	11.2	2.7	70%	72.9	16.5	22.5	9.4	69	37,476
GI0056	***6.8***	***1.4***	***79%***	***128.3***	***0.0***	***0.0***	***0.0***	***185***	***76,758***
Average	7.8	1.4	70%	168.4	11.7	27.1	12.8	109	52,969
Top 25%*	8.9	1.3	72%	182.7	8.9	17.0	11.0	136	64,707

**on milking area

TABLE D3

Purchased feed - Gippsland

Farm number	Purchased feed per milker	Concentrate price	Purchased feed as % of ME consumed
	T DM/HD	$/ T DM	% OF ME
GI0004	1.5	$372	25%
GI0005	1.3	$360	24%
GI0011	1.9	$385	31%
GI0012	1.7	$315	28%
GI0017	1.3	$409	22%
GI0021	1.6	$366	29%
GI0022	1.7	$376	25%
GI0023	2.5	$386	36%
GI0025	1.3	$274	23%
GI0028	2.6	$377	38%
GI0029	***1.2***	***$353***	***24%***
GI0031	2.3	$265	47%
GI0032	2.3	$371	30%
GI0039	2.6	$281	37%
GI0041	***1.7***	***$276***	***30%***
GI0045	1.7	$311	30%
GI0046	1.8	$342	29%
GI0048	***2.5***	***$288***	***35%***
GI0049	***1.5***	***$393***	***30%***
GI0051	1.6	$383	21%
GI0052	2.3	$447	35%
GI0053	***2.1***	***$367***	***40%***
GI0054	***2.0***	***$409***	***29%***
GI0055	1.8	$374	30%
GI0056	***1.0***	***$274***	***21%***
Average	1.8	$350	30%
Top 25%*	1.7	$332	28%

TABLE D4

Variable costs - Gippsland

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd & 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	$0.00	$0.11	$0.01	$0.11	$0.03	$0.25	$0.27	$0.00	$0.18
GI0005	$0.10	$0.02	$0.03	$0.13	$0.08	$0.36	$0.40	$0.00	$0.20
GI0011	$0.06	$0.02	$0.03	$0.12	$0.12	$0.36	$0.34	$0.00	$0.02
GI0012	$0.07	$0.11	$0.02	$0.08	$0.07	$0.35	$0.45	$0.00	$0.09
GI0017	$0.08	$0.10	$0.01	$0.11	$0.15	$0.45	$0.43	$0.02	$0.07
GI0021	$0.09	$0.12	$0.09	$0.16	$0.03	$0.49	$0.34	$0.00	$0.27
GI0022	$0.16	$0.31	$0.02	$0.11	$0.05	$0.64	$0.34	$0.02	$0.57
GI0023	$0.13	$0.12	$0.03	$0.07	$0.10	$0.44	$0.25	$0.30	$0.08
GI0025	$0.00	$0.06	$0.02	$0.11	$0.10	$0.30	$0.54	$0.04	$0.29
GI0028	$0.09	$0.11	$0.04	$0.12	$0.12	$0.48	$0.55	$0.00	$0.21
GI0029	***$0.09***	***$0.08***	***$0.02***	***$0.08***	***$0.02***	***$0.30***	***$0.25***	***$0.26***	***$0.04***
GI0031	$0.12	$0.15	$0.01	$0.09	$0.09	$0.46	$0.19	$0.32	$0.05
GI0032	$0.15	$0.10	$0.25	$0.09	$0.05	$0.64	$0.53	$0.00	$0.20
GI0039	$0.15	$0.15	$0.02	$0.13	$0.04	$0.48	$0.68	$0.00	$0.27
GI0041	***$0.12***	***$0.15***	***$0.00***	***$0.13***	***$0.09***	***$0.50***	***$0.34***	***$0.00***	***$0.17***
GI0045	$0.15	$0.20	$0.02	$0.15	$0.02	$0.53	$0.33	$0.00	$0.45
GI0046	$0.12	$0.11	$0.02	$0.17	$0.02	$0.44	$0.33	$0.01	$0.25
GI0048	***$0.07***	***$0.08***	***$0.06***	***$0.09***	***$0.07***	***$0.37***	***$0.38***	***$0.00***	***$0.09***
GI0049	***$0.17***	***$0.12***	***$0.02***	***$0.22***	***$0.15***	***$0.67***	***$0.19***	***$0.08***	***$0.02***
GI0051	$0.34	$0.29	$0.03	$0.09	$0.07	$0.82	$0.64	$0.00	$0.45
GI0052	$0.10	$0.06	$0.02	$0.13	$0.08	$0.39	$0.63	$0.00	$0.23
GI0053	$0.05	$0.09	$0.02	$0.13	$0.13	$0.41	$0.25	$0.20	$0.03
GI0054	***$0.06***	***$0.14***	***$0.00***	***$0.08***	***$0.08***	***$0.36***	***$0.46***	***$0.02***	***$0.41***
GI0055	$0.06	$0.15	$0.04	$0.11	$0.03	$0.38	$0.44	$0.23	$0.14
GI0056	***$0.10***	***$0.16***	***$0.08***	***$0.08***	***$0.09***	***$0.49***	***$0.19***	***$0.00***	***$0.15***
Average	$0.10	$0.12	$0.04	$0.11	$0.08	$0.46	$0.39	$0.06	$0.20
Top 25%*	$0.10	$0.12	$0.03	$0.11	$0.08	$0.45	$0.30	$0.06	$0.15

TABLE D4

Variable costs - Gippsland (Coninued)

Farm number	Fuel and oil	Pasture improvement/ cropping	Other feed costs	Fodder purchases	Grain/ concentrates/ other	Agistment costs	Total feed costs	Total variable costs
	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS
GI0004	$0.10	$0.07	$0.08	$0.49	$1.19	$0.00	$2.33	$2.63
GI0005	$0.05	$0.01	$0.00	$0.16	$1.08	$0.00	$1.71	$2.07
GI0011	$0.14	$0.03	$0.00	$0.00	$1.62	$0.00	$2.47	$2.85
GI0012	$0.07	$0.08	$0.13	$0.03	$0.99	$0.00	$1.89	$2.26
GI0017	$0.14	$0.02	$0.00	$0.43	$1.24	$0.00	$2.95	$3.40
GI0021	$0.11	$0.22	$0.01	$0.06	$1.21	$0.00	$2.16	$2.74
GI0022	$0.14	$0.13	$0.04	$0.00	$1.31	$0.00	$2.46	$3.10
GI0023	$0.19	$0.08	$0.00	$0.04	$1.58	$0.00	$2.44	$2.88
GI0025	$0.04	$0.16	$0.01	$0.00	$0.87	$0.03	$1.94	$2.25
GI0028	$0.09	$0.05	$0.04	$0.18	$1.57	$0.02	$2.67	$3.15
GI0029	***$0.07***	***$0.03***	***$0.00***	***$0.21***	***$0.81***	***$0.31***	***$1.96***	***$2.28***
GI0031	$0.05	$0.08	$0.19	$0.08	$1.14	$0.47	$2.57	$3.03
GI0032	$0.08	$0.15	$0.00	$0.00	$1.60	$0.00	$2.36	$2.99
GI0039	$0.06	$0.05	$0.00	$0.00	$1.39	$0.00	$2.31	$2.79
GI0041	***$0.05***	***$0.03***	***$0.04***	***$0.01***	***$0.97***	***$0.07***	***$1.54***	***$2.03***
GI0045	$0.08	$0.13	$0.07	$0.00	$1.18	$0.00	$2.26	$2.79
GI0046	$0.05	$0.10	$0.02	$0.03	$1.11	$0.06	$1.70	$2.14
GI0048	***$0.05***	***$0.10***	***$0.07***	***$0.52***	***$0.77***	***$0.00***	***$2.05***	***$2.46***
GI0049	***$0.03***	***$0.03***	***$0.03***	***$0.09***	***$1.13***	***$0.44***	***$2.06***	***$2.78***
GI0051	$0.13	$0.10	$0.04	$0.02	$1.11	$0.00	$2.38	$3.20
GI0052	$0.12	$0.17	$0.00	$0.00	$1.78	$0.00	$2.74	$3.16
GI0053	***$0.10***	***$0.09***	***$0.00***	***$0.04***	***$1.41***	***$0.29***	***$2.46***	***$2.87***
GI0054	***$0.07***	***$0.06***	***$0.10***	***$0.10***	***$1.24***	***$0.00***	***$2.12***	***$2.48***
GI0055	$0.13	$0.15	$0.00	$0.00	$1.32	$0.00	$2.33	$2.73
GI0056	***$0.03***	***$0.04***	***$0.06***	***$0.06***	***$0.64***	***$0.00***	***$1.37***	***$1.86***
Average	$0.09	$0.09	$0.04	$0.10	$1.21	$0.07	$2.21	$2.68
Top 25%*	$0.05	$0.05	$0.05	$0.16	$0.93	$0.14	$1.85	$2.32

TABLE D5

Overhead costs - Gippsland

Farm number	Rates	Registration & insurance	Repairs & maintenance	Other overheads	Employed Labour	Total cash overheads	Depreciation	Imputed owner / operator & family labour	Total overheads
	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS	$/ KG MS
GI0004	$0.11	$0.12	$0.23	$0.12	$0.05	$0.63	$0.10	$2.59	$3.32
GI0005	$0.11	$0.16	$0.28	$0.11	$0.00	$0.66	$0.06	$2.28	$3.00
GI0011	$0.05	$0.07	$0.17	$0.08	$0.20	$0.57	$0.40	$1.01	$1.99
GI0012	$0.08	$0.05	$0.26	$0.17	$0.24	$0.80	$0.24	$1.59	$2.63
GI0017	$0.08	$0.08	$0.29	$0.12	$1.30	$1.85	$0.41	$0.78	$3.05
GI0021	$0.09	$0.06	$0.11	$0.19	$0.72	$1.18	$0.18	$0.82	$2.18
GI0022	$0.07	$0.09	$0.39	$0.11	$1.07	$1.73	$0.29	$0.13	$2.15
GI0023	$0.04	$0.10	$0.18	$0.05	$0.81	$1.17	$0.28	$0.40	$1.85
GI0025	$0.08	$0.10	$0.20	$0.08	$0.34	$0.79	$0.25	$1.09	$2.14
GI0028	$0.08	$0.08	$0.21	$0.09	$0.57	$1.03	$0.13	$0.71	$1.88
GI0029	***$0.06***	***$0.08***	***$0.21***	***$0.07***	***$0.62***	***$1.04***	***$0.13***	***$0.72***	***$1.89***
GI0031	$0.04	$0.05	$0.23	$0.11	$1.08	$1.51	$0.11	$0.00	$1.62
GI0032	$0.08	$0.18	$0.38	$0.07	$0.45	$1.15	$0.66	$0.82	$2.63
GI0039	$0.05	$0.08	$0.40	$0.10	$0.31	$0.93	$0.18	$0.82	$1.93
GI0041	***$0.06***	***$0.05***	***$0.28***	***$0.09***	***$0.41***	***$0.90***	***$0.09***	***$0.60***	***$1.59***
GI0045	$0.09	$0.07	$0.23	$0.11	$0.43	$0.92	$0.14	$0.80	$1.87
GI0046	$0.10	$0.10	$0.31	$0.21	$0.63	$1.35	$0.12	$0.71	$2.18
GI0048	***$0.04***	***$0.05***	***$0.12***	***$0.04***	***$0.34***	***$0.59***	***$0.07***	***$0.61***	***$1.27***
GI0049	***$0.04***	***$0.08***	***$0.28***	***$0.13***	***$1.23***	***$1.77***	***$0.08***	***$0.00***	***$1.84***
GI0051	$0.05	$0.15	$0.31	$0.21	$1.24	$1.95	$0.15	$0.38	$2.48
GI0052	$0.09	$0.10	$0.32	$0.27	$0.19	$0.96	$0.35	$0.86	$2.18
GI0053	$0.04	$0.07	$0.17	$0.11	$0.10	$0.49	$0.11	$0.87	$1.47
GI0054	***$0.04***	***$0.03***	***$0.28***	***$0.04***	***$0.39***	***$0.78***	***$0.14***	***$0.58***	***$1.50***
GI0055	$0.03	$0.06	$0.30	$0.02	$0.26	$0.68	$0.26	$1.50	$2.44
GI0056	***$0.06***	***$0.07***	***$0.16***	***$0.03***	***$0.00***	***$0.32***	***$0.20***	***$0.88***	***$1.40***
Average	$0.07	$0.08	$0.25	$0.11	$0.52	$1.03	$0.20	$0.86	$2.10
Top 25%*	$0.05	$0.06	$0.22	$0.07	$0.50	$0.90	$0.12	$0.56	$1.58

TABLE D6

Variable costs - Gippsland

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd & 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	0.0%	1.8%	0.2%	1.8%	0.5%	4.3%	4.6%	0.0%	3.0%
GI0005	1.9%	0.4%	0.6%	2.5%	1.6%	7.1%	7.9%	0.0%	3.9%
GI0011	1.2%	0.5%	0.7%	2.5%	2.5%	7.5%	7.0%	0.0%	0.4%
GI0012	1.5%	2.2%	0.4%	1.7%	1.5%	7.2%	9.1%	0.0%	1.7%
GI0017	1.2%	1.5%	0.2%	1.6%	2.4%	6.9%	6.7%	0.3%	1.1%
GI0021	1.9%	2.4%	1.8%	3.2%	0.6%	10.0%	6.9%	0.0%	5.5%
GI0022	3.0%	5.9%	0.3%	2.0%	0.9%	12.2%	6.6%	0.4%	10.9%
GI0023	2.8%	2.5%	0.6%	1.4%	2.1%	9.4%	5.3%	6.4%	1.8%
GI0025	0.0%	1.4%	0.4%	2.5%	2.4%	6.7%	12.3%	1.0%	6.6%
GI0028	1.8%	2.3%	0.8%	2.3%	2.3%	9.5%	11.0%	0.0%	4.2%
GI0029	***2.2%***	***1.9%***	***0.5%***	***2.0%***	***0.6%***	***7.2%***	***6.1%***	***6.2%***	***0.9%***
GI0031	2.5%	3.2%	0.3%	1.9%	2.0%	10.0%	4.2%	6.9%	1.1%
GI0032	2.6%	1.7%	4.5%	1.5%	0.9%	11.3%	9.5%	0.0%	3.6%
GI0039	3.3%	3.1%	0.4%	2.7%	0.8%	10.2%	14.4%	0.0%	5.7%
GI0041	***3.4%***	***4.1%***	***0.1%***	***3.6%***	***2.5%***	***13.7%***	***9.4%***	***0.0%***	***4.7%***
GI0045	3.2%	4.2%	0.5%	3.2%	0.4%	11.5%	7.1%	0.0%	9.7%
GI0046	2.7%	2.6%	0.4%	3.9%	0.4%	10.1%	7.7%	0.2%	5.8%
GI0048	***1.9%***	***2.2%***	***1.6%***	***2.5%***	***1.9%***	***10.0%***	***10.3%***	***0.0%***	***2.5%***
GI0049	***3.6%***	***2.5%***	***0.4%***	***4.7%***	***3.3%***	***14.5%***	***4.1%***	***1.7%***	***0.4%***
GI0051	6.0%	5.1%	0.5%	1.6%	1.3%	14.5%	11.3%	0.0%	7.9%
GI0052	1.8%	1.1%	0.4%	2.4%	1.6%	7.3%	11.8%	0.0%	4.4%
GI0053	1.1%	2.0%	0.4%	2.9%	3.0%	9.4%	5.7%	4.5%	0.7%
GI0054	***1.5%***	***3.4%***	***0.0%***	***2.1%***	***2.1%***	***9.1%***	***11.6%***	***0.5%***	***10.2%***
GI0055	1.1%	2.8%	0.7%	2.0%	0.6%	7.3%	8.4%	4.4%	2.7%
GI0056	***3.0%***	***4.8%***	***2.3%***	***2.4%***	***2.6%***	***15.1%***	***5.9%***	***0.0%***	***4.7%***
Average	2.2%	2.6%	0.8%	2.5%	1.6%	9.7%	8.2%	1.3%	4.2%
Top 25%*	2.6%	3.2%	0.8%	2.9%	2.2%	11.6%	7.9%	1.4%	3.9%

Farm number	Fuel and oil	Pasture improvement/ cropping	Other feed costs	Fodder purchases	Grain/ concentrates/ other	Agistment costs	Total feed costs	Total variable costs
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
GI0004	1.7%	1.2%	1.3%	8.2%	20.0%	0.0%	39.2%	44.2%
GI0005	1.1%	0.1%	0.0%	3.1%	21.3%	0.0%	33.8%	40.9%
GI0011	2.9%	0.7%	0.0%	0.0%	33.6%	0.0%	51.0%	58.9%
GI0012	1.5%	1.5%	2.6%	0.6%	20.2%	0.0%	38.7%	46.2%
GI0017	2.1%	0.3%	0.0%	6.6%	19.3%	0.0%	45.8%	52.7%
GI0021	2.3%	4.5%	0.2%	1.2%	24.5%	0.0%	43.9%	55.7%
GI0022	2.7%	2.5%	0.8%	0.0%	24.9%	0.0%	46.9%	59.1%
GI0023	4.0%	1.7%	0.0%	0.8%	33.4%	0.0%	51.6%	61.0%
GI0025	0.8%	3.7%	0.3%	0.0%	19.9%	0.6%	44.2%	51.2%
GI0028	1.7%	0.9%	0.7%	3.5%	31.3%	0.3%	53.1%	62.7%
GI0029	***1.6%***	***0.7%***	***0.0%***	***4.9%***	***19.5%***	***7.5%***	***47.1%***	***54.7%***
GI0031	1.1%	1.6%	4.0%	1.7%	24.5%	10.1%	55.2%	65.2%
GI0032	1.5%	2.7%	0.0%	0.0%	28.5%	0.0%	41.9%	53.2%
GI0039	1.2%	1.2%	0.1%	0.0%	29.4%	0.0%	48.8%	59.0%
GI0041	***1.5%***	***0.8%***	***1.1%***	***0.3%***	***26.6%***	***1.9%***	***42.4%***	***56.1%***
GI0045	1.7%	2.7%	1.6%	0.0%	25.3%	0.0%	48.5%	59.9%
GI0046	1.2%	2.3%	0.5%	0.8%	25.8%	1.4%	39.4%	49.5%
GI0048	***1.4%***	***2.6%***	***1.9%***	***14.0%***	***20.5%***	***0.0%***	***54.8%***	***65.9%***
GI0049	***0.7%***	***0.7%***	***0.7%***	***1.9%***	***24.5%***	***9.4%***	***44.5%***	***60.1%***
GI0051	2.3%	1.7%	0.8%	0.4%	19.5%	0.0%	41.9%	56.4%
GI0052	2.2%	3.2%	0.0%	0.0%	33.3%	0.0%	51.4%	59.2%
GI0053	***2.3%***	***2.1%***	***0.0%***	***1.0%***	***32.5%***	***6.7%***	***56.8%***	***66.2%***
GI0054	***1.7%***	***1.6%***	***2.4%***	***2.6%***	***31.2%***	***0.0%***	***53.1%***	***62.3%***
GI0055	2.6%	2.8%	0.0%	0.0%	25.4%	0.0%	45.1%	52.8%
GI0056	0.9%	1.3%	1.8%	1.7%	19.7%	0.0%	42.0%	57.1%
Average	1.8%	1.8%	0.8%	2.1%	25.4%	1.5%	46.4%	56.4%
Top 25%*	1.3%	1.3%	1.3%	4.2%	23.7%	3.1%	47.3%	59.4%

TABLE D7

Overhead costs - Gippsland

Farm number	Rates	Registration & insurance	Repairs & maintenance	Other overheads	Employed Labour	Total cash overheads	Depreciation	Imputed owner / operator & family labour	Total overheads
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
GI0004	1.9%	2.0%	3.9%	2.0%	0.8%	10.7%	1.6%	43.5%	55.8%
GI0005	2.1%	3.2%	5.5%	2.2%	0.0%	13.1%	1.1%	44.9%	59.1%
GI0011	1.1%	1.4%	3.6%	1.6%	4.2%	11.9%	8.3%	21.0%	41.1%
GI0012	1.6%	1.1%	5.2%	3.5%	4.9%	16.3%	4.9%	32.6%	53.8%
GI0017	1.2%	1.2%	4.4%	1.8%	20.2%	28.8%	6.4%	12.2%	47.3%
GI0021	1.9%	1.3%	2.3%	3.9%	14.5%	24.0%	3.6%	16.7%	44.3%
GI0022	1.4%	1.8%	7.4%	2.0%	20.4%	33.0%	5.4%	2.4%	40.9%
GI0023	0.8%	2.0%	3.9%	1.1%	17.0%	24.8%	5.8%	8.4%	39.0%
GI0025	1.8%	2.2%	4.5%	1.7%	7.8%	18.1%	5.8%	24.9%	48.8%
GI0028	1.5%	1.6%	4.2%	1.8%	11.4%	20.5%	2.7%	14.1%	37.3%
GI0029	***1.3%***	***1.9%***	***5.1%***	***1.7%***	***14.9%***	***25.1%***	***3.0%***	***17.3%***	***45.3%***
GI0031	0.8%	1.0%	5.0%	2.5%	23.1%	32.4%	2.4%	0.0%	34.8%
GI0032	1.4%	3.2%	6.8%	1.2%	7.9%	20.5%	11.8%	14.6%	46.8%
GI0039	1.0%	1.6%	8.5%	2.1%	6.5%	19.8%	3.9%	17.3%	41.0%
GI0041	***1.7%***	***1.5%***	***7.8%***	***2.5%***	***11.4%***	***24.9%***	***2.5%***	***16.5%***	***43.9%***
GI0045	1.9%	1.4%	4.9%	2.4%	9.2%	19.8%	3.0%	17.2%	40.1%
GI0046	2.2%	2.3%	7.3%	4.9%	14.6%	31.3%	2.8%	16.4%	50.5%
GI0048	***1.2%***	***1.4%***	***3.2%***	***1.0%***	***9.1%***	***15.8%***	***1.9%***	***16.4%***	***34.1%***
GI0049	***0.8%***	***1.8%***	***6.1%***	***2.8%***	***26.6%***	***38.2%***	***1.7%***	***0.0%***	***39.9%***
GI0051	0.9%	2.6%	5.4%	3.7%	21.8%	34.4%	2.6%	6.7%	43.6%
GI0052	1.7%	1.8%	6.0%	5.0%	3.5%	17.9%	6.6%	16.2%	40.8%
GI0053	0.9%	1.7%	4.0%	2.5%	2.3%	11.3%	2.5%	20.1%	33.8%
GI0054	***1.1%***	***0.8%***	***7.1%***	***1.0%***	***9.7%***	***19.7%***	***3.5%***	***14.5%***	***37.7%***
GI0055	0.7%	1.1%	5.9%	0.4%	5.1%	13.1%	5.1%	29.0%	47.2%
GI0056	***1.9%***	***2.1%***	***5.0%***	***1.0%***	***0.0%***	***10.0%***	***6.0%***	***26.9%***	***42.9%***
Average	1.4%	1.8%	5.3%	2.2%	10.7%	21.4%	4.2%	18.0%	43.6%
Top 25%*	1.3%	1.6%	5.7%	1.7%	11.9%	22.3%	3.1%	15.3%	40.6%

TABLE D8

Capital Structure - Gippsland

	Farm Assets				Other farm assets (per usable hectare)				
	Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	Total assets
	$/HA	$/COW	$/HA	$/COW	$/HA	$/HA	$/HA	$/HA	$/HA
Average	$16,607	$8,622	$4,344	$1,575	$1,373	$3,264	$156	$1,390	$20,945
Top 25%*	$17,332	$7,717	$5,717	$2,274	$997	$3,836	$112	$2,081	$23,333

	Liabilities		Equity	
	Liabilities per usable hectare	Liabilities per milking cow	Equity per usable hectare	Average equity
	$/HA	$/COW	$/HA	%
Average	$7,666	$4,864	$13,279	61%
Top 25%*	$7,389	$3,327	$15,944	70%

TABLE D9

Historical Data - Gippsland

	Income				Variable costs							
	Milk income (net)		Gross farm income		Herd costs		Shed costs		Feed costs		Total variable costs	
YEAR	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	$5.64	$5.16	$6.52	$0.23	$0.29	$0.15	$0.19	$2.31	$2.92	$2.72	$3.44
2007-08	$6.62	$8.01	$7.58	$9.17	$0.27	$0.33	$0.13	$0.16	$2.80	$3.38	$3.30	$3.99
2008-09	$5.32	$6.34	$6.05	$7.21	$0.25	$0.30	$0.15	$0.18	$2.61	$3.10	$3.01	$3.59
2009-10	$4.38	$5.06	$5.07	$5.86	$0.22	$0.25	$0.17	$0.19	$1.95	$2.25	$2.33	$2.69
2010-11	$5.59	$6.23	$6.34	$7.06	$0.28	$0.31	$0.19	$0.21	$2.06	$2.29	$2.52	$2.81
2011-12	$5.37	$5.91	$5.89	$6.49	$0.29	$0.31	$0.18	$0.20	$2.12	$2.33	$2.59	$2.85
2012-13	$4.75	$5.11	$4.99	$5.37	$0.31	$0.34	$0.22	$0.24	$2.31	$2.49	$2.85	$3.06
2013-14	$6.62	$6.92	$7.33	$7.65	$0.31	$0.32	$0.21	$0.22	$2.67	$2.79	$3.19	$3.34
2014-15	$5.88	$6.06	$6.51	$6.70	$0.32	$0.33	$0.20	$0.21	$2.63	$2.70	$3.15	$3.24
2015-16	$5.28	$5.38	$5.79	$5.90	$0.30	$0.31	$0.20	$0.20	$2.73	$2.79	$3.24	$3.30
2016-17	$4.84	$4.84	$5.50	$5.50	$0.27	$0.27	$0.20	$0.20	$2.21	$2.21	$2.68	$2.68
Average		$5.95		$6.68		$0.31		$0.20		$2.66		$3.18

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

	Overhead costs						Profits							
	Cash overhead costs		Non-cash overhead costs		Total overhead costs		Earnings before interest & tax		Interest & lease charges		Net farm income			
	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)	RETURN ON ASSETS	RETURN ON EQUITY
2006-07	$0.69	$0.87	$1.44	$1.82	$2.13	$2.69	$0.31	$0.39	$0.57	$0.72	-$0.26	-$0.33	0.8%	-2.1%
2007-08	$0.80	$0.96	$0.90	$1.09	$1.59	$1.93	$2.69	$3.26	$0.61	$0.74	$2.08	$2.52	9.7%	14.9%
2008-09	$0.78	$0.93	$0.93	$1.10	$1.71	$2.04	$1.28	$1.52	$0.51	$0.61	$0.76	$0.91	4.0%	3.4%
2009-10	$0.80	$0.93	$1.09	$1.26	$1.90	$2.19	$0.80	$0.92	$0.70	$0.81	$0.10	$0.11	2.6%	0.7%
2010-11	$0.93	$1.04	$0.93	$1.03	$1.86	$2.07	$1.96	$2.18	$0.67	$0.74	$1.29	$1.44	6.1%	9.9%
2011-12	$0.95	$1.05	$1.05	$1.16	$2.01	$2.21	$1.30	$1.43	$0.65	$0.72	$0.64	$0.71	4.4%	5.1%
2012-13	$1.09	$1.17	$1.19	$1.28	$2.28	$2.45	-$0.14	-$0.15	$0.73	$0.78	-$0.86	-$0.93	-0.2%	-6.2%
2013-14	$1.04	$1.08	$1.07	$1.12	$2.11	$2.20	$2.03	$2.12	$0.69	$0.72	$1.34	$1.40	6.4%	10.2%
2014-15	$1.05	$1.08	$0.96	$0.99	$2.00	$2.06	$1.36	$1.40	$0.68	$0.70	$0.68	$0.70	4.7%	4.6%
2015-16	$1.09	$1.11	$1.13	$1.15	$2.22	$2.26	$0.33	$0.34	$0.64	$0.65	-$0.30	-$0.31	1.3%	-2.3%
2016-17	$1.03	$1.03	$1.07	$1.07	$2.10	$2.10	$0.73	$0.73	$0.68	$0.68	$0.05	$0.05	2.3%	0.7%
Average		$1.02		$1.19		$2.20		$1.29		$0.72		$0.57	3.8%	3.5%

TABLE D10

Historical Data - Gippsland

	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per useable area	Milk sold	Milk sold	Estimated grazed pasture*	Estimated conserved feed*	Home grown feed as % of ME consumed	Concentrate price	
	HA	HA	MM/ HA	HD	HD/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	668	282	1.4	405	579	5.6	1.2	71%	$339	$428
2007-08	181	174	838	289	1.6	464	741	7.2	1.1	74%	$451	$545
2008-09	182	172	814	276	1.6	483	803	7.2	0.8	71%	$385	$459
2009-10	172	160	1,022	268	1.7	472	792	7.6	0.9	73%	$273	$315
2010-11	190	187	1,123	285	1.6	494	811	7.1	1.7	69%	$315	$351
2011-12	189	126	1,182	291	1.7	501	843	7.4	0.9	62%	$311	$343
2012-13	194	134	906	299	1.7	462	781	6.9	0.6	62%	$356	$383
2013-14	186	126	1,044	284	1.8	468	835	7.6	1.0	68%	$403	$421
2014-15	189	123	956	304	1.8	479	890	7.4	1.1	66%	$419	$432
2015-16	201	122	894	291	1.7	482	836	6.9	1.0	59%	$418	$426
2016-17	203	122	953	290	1.7	486	823	7.8	1.4	70%	$350	$350
Average	189	149	945	287	1.7	472	794	7.1	1.1	68%		$405

* 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.

Annual hours

Total hours worked by a person during the given twelve month period.

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 (ie 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 ie 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.

EBIT %

The ratio of EBIT compared to gross income. Indicates the percentage of each dollar of gross income that is retained as EBIT.

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.

Farm income

See gross farm income.

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 area

Total usable area minus any area used only for fodder production during the 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 $28 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 external sources. Includes dividends, interest payments received, and rents from farm cottages.

Overhead costs

All fixed costs incurred by the farm business e.g. rates, administration, depreciation, insurance and imputed labour. Interest, leases, capital expenditure, principal repayments and tax are not included.

Real terms

Dollar values or interest rates that have no inflation component.

Return on assets (RoA)

Earnings before interest and tax divided by the value of total assets under management, including owned and leased land.

Return on equity (RoE)

Net farm income divided by the value of total equity.

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 used

Total rainfall plus average irrigation water used expressed as millimetres per hectare, where irrigation water is calculated as;

(total megalitres of water used/total usable area) x 100.

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).

List of abbreviations

AI	Artificial insemination
CH_4	Methane gas
CO_2	Carbon dioxide gas
CO_2-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)
hd	Head of cattle
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)
N_2O	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
RoA	Return on assets
RoE	Return on equity
t	Tonne = 1,000 kg

Standard values

Irrigation values

The 2016-17 standard values to estimate the inventory values of irrigation water were:

Category	Opening value ($/ML)	Closing value ($/ML)
HRWS *	$2,550	$2,550
LRWS *	$250	$250
Carry over water (allocation)*	$117	$43
Groundwater	$600	$600

*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	$1,500	$1,500
14/15 heifers	$1,050	$1,500
15/16 heifers	$450	$1,050
16/17 calves		$450
Mature Bulls	$1,500	$1,500

Imputed owner/operator and family labour

In 2016-17 the imputed owner/operator and family labour rate was $28/hr based on a full time equivalent (FTE) working 48 hours/week for 50 weeks of the year.

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