

Dairy Farm Monitor Report

Victoria | Annual Report
2015-16



Acknowledgements

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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



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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:

- Executive 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 2015-16 year. Data is presented for individual farms, as regional averages and for the regional top 25% of farms ranked by return on assets (RoA). 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, a glossary of terms and a list of standard values used.

Milk production data is presented in kilograms of milk solids (fat + protein) as farmers are paid based on milk solids production.

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 on a per kilogram of milk solids basis.

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

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

Any reference to 'last year' refers to the 2014-15 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 2014-15 are in the 2015-16 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 will be repeated within the different chapters.

What's new in 2015 – 16

The Dairy Farm Monitor Report for 2015-16 includes a number of changes since last year's report. The most significant highlights are:

- The standard value for imputed owner operator and family labour was revised from \$25/hr to \$28/hr to reflect industry rates and inflation.
- The standard value for livestock used to calculate livestock trading profit and asset values was revised to reflect market rates and inflation. For example a mature cow increased from \$1,100/head to \$1,500/head across all participant farms.
- The cost of production calculation was revised to articulate the cost of production on a cash basis, cash plus non-cash basis and also to identify the impact of inventory change on cost of production. This also now aligns with the reporting in Dairy Australia's DairyBase. The regional chapters detail the cost of production calculation.
- The standard values used to estimate the value of livestock, irrigation and the imputed operators allowance for labour and management are detailed in the Appendix E.
- The method of estimating Australia's dairy industry greenhouse gas emissions, the national greenhouse gas inventory (NGGI), was altered to reflect new research outcomes and align with international guidelines. The global warming potential (GWP) of the main three gases was altered, and pre-farm gate emissions sources are now considered.

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

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

OR

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

I.

Summary



Summary

Average whole farm earnings before interest and tax (EBIT) fell to \$70,804, a 70% decrease compared with the previous year and the third lowest level recorded over the ten year history of the project. Return on assets (RoA) was 0.6% compared with 5.3% last year.

The Dairy Farm Monitor Project has provided farm level data relating to profitability and production for ten years in Victoria.

Dairy farm profitability declined in 2015-16 as a result of challenging seasonal and operating conditions. The season was characterised by dry conditions across the regions, below average rainfall totals and higher temperatures that impacted pasture growth. Farmers utilised their long term fodder reserves and purchased additional fodder to supplement the lower pasture consumption. The average milk price declined 11% to \$5.40/kg MS, compared to \$6.04/kg MS last year, further compounding lower farm profits.

Despite these challenges, over half of the participants (45 of the 75) recorded positive RoA, compared with 73 out of 75 in the previous year. Some of the strategies farmers employed to mitigate the difficult conditions were securing fodder early in the season and culling of underperforming cows at higher livestock prices. Farmers in the North also focused on strategic water use such as drying off lower performing pastures and then turned their attention to growing summer fodder crops.

Interest and lease costs remained stable over the last two years and when deducted from earnings before interest and tax (EBIT), net farm income fell to -\$41,107, down from \$134,743 the previous year. Twenty five of the 75 farms recorded positive net farm income in 2015-16.

The North

The combination of below average rainfall, higher temperatures and a competitive temporary water market provided challenging operating conditions for northern Victoria farmers in 2015-16. The drier conditions meant farmers had a greater reliance and exposure to the fodder and temporary water markets. For those farmers who purchased temporary water between years, the average price increased from \$120/ML to \$236/ML, contributing to a 40% increase in irrigation costs to \$0.67/kg MS. Purchased fodder costs increased 47%, up to \$0.66/kg MS as farmers supplemented animal metabolisable energy requirements on the fodder market. Overhead costs remained steady year-on-year.

An added concern for farm profitability in 2015-16 was the lower average milk price, falling from \$6.09/kg MS in this region last year, to \$5.46/kg MS this year. The farms in the North experienced the greatest spread in milk price of all the regions, which in part also led to the greatest variation seen in RoA between the regions. Return on assets fell to -0.1%, the second time in the history of the project for this region, down from 6.1% recorded last year. EBIT fell to \$49,842/farm, an 80% drop from \$228,316/farm recorded in 2014-15.

The South West

Drier seasonal conditions featured in the South West, with the lowest rainfall on record for most parts of the region in October 2015, followed by sporadic rainfall events over late spring and summer. Long-term fodder levels declined on farm, as it was fed out early to reduce the effect of low pasture availability. Farmers then purchased additional hay at elevated prices compared to the previous year, to see out the financial year.

While the South West recorded the highest milk price of the regions at \$5.47/kg MS, it was 11% lower than the previous year and compounded the effects of poor growing conditions. Earnings before interest and tax fell to \$90,257/farm, from \$289,135/farm recorded last year. The resulting RoA decreased to 0.6%, from 5.2% in 2014-15.

Gippsland

The geographical spread of farms within the region resulted in a large variation in individual farm performance. Farms in the Macalister Irrigation District (MID) were able to access irrigation allocation, compared with non-irrigated parts of the region which felt the impacts of the failed 2015 spring. The overall lack of pasture growth combined with reduced fodder conservation led to more fodder being fed and purchased than in other years.

The lower profit performance of Gippsland farms in 2015-16 was the result of an 10% decrease in milk income to \$5.28/kg MS and a 6% increase in costs due to managing difficult seasonal conditions. Sixteen of the 25 farms recorded positive EBIT with an average of \$72,312/farm compared to \$248,948/farm last year. Return on assets decreased from 4.7% last year to 1.3% this year to be the most positive result of all regions in 2015-16.

Farmer confidence

Three in four farmers expect their farm business returns to deteriorate in 2016-17, as the majority of participants have predicted lower milk prices and higher input costs to influence profits. An overwhelming majority of participants identified milk price as the main issue facing their business in the coming 12 months (41% of responses compared to 11% last year). Over the longer term succession planning and water were the other major concerns.

Historical analysis

A historical analysis over the past ten years of the project showed that farm profits, as measured by RoA, in the North and South West were the second lowest recorded and Gippsland had the third lowest.

II.

Farm Monitor Method



Farm monitor method

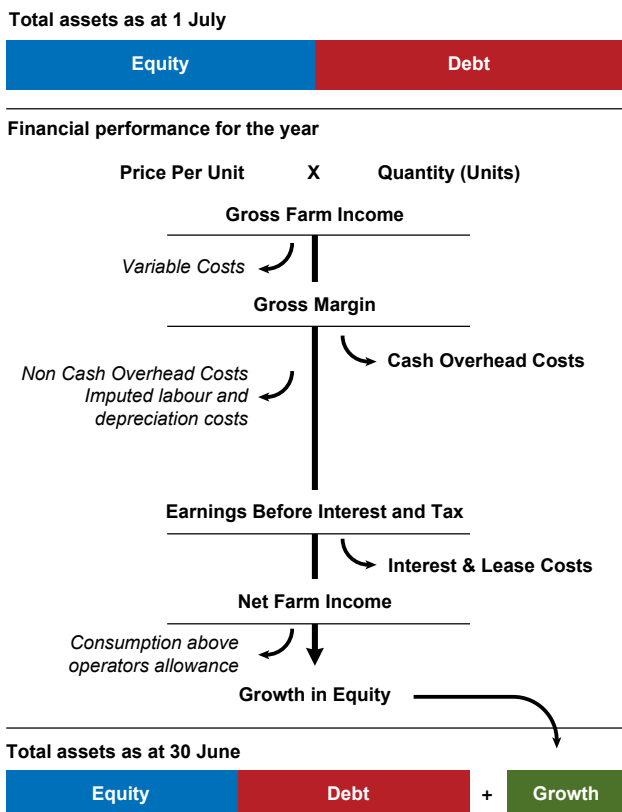
This chapter explains the method used in the Dairy Farm Monitor Project and defines the key terms used.

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 (DFMP) 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, feed inventory change 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

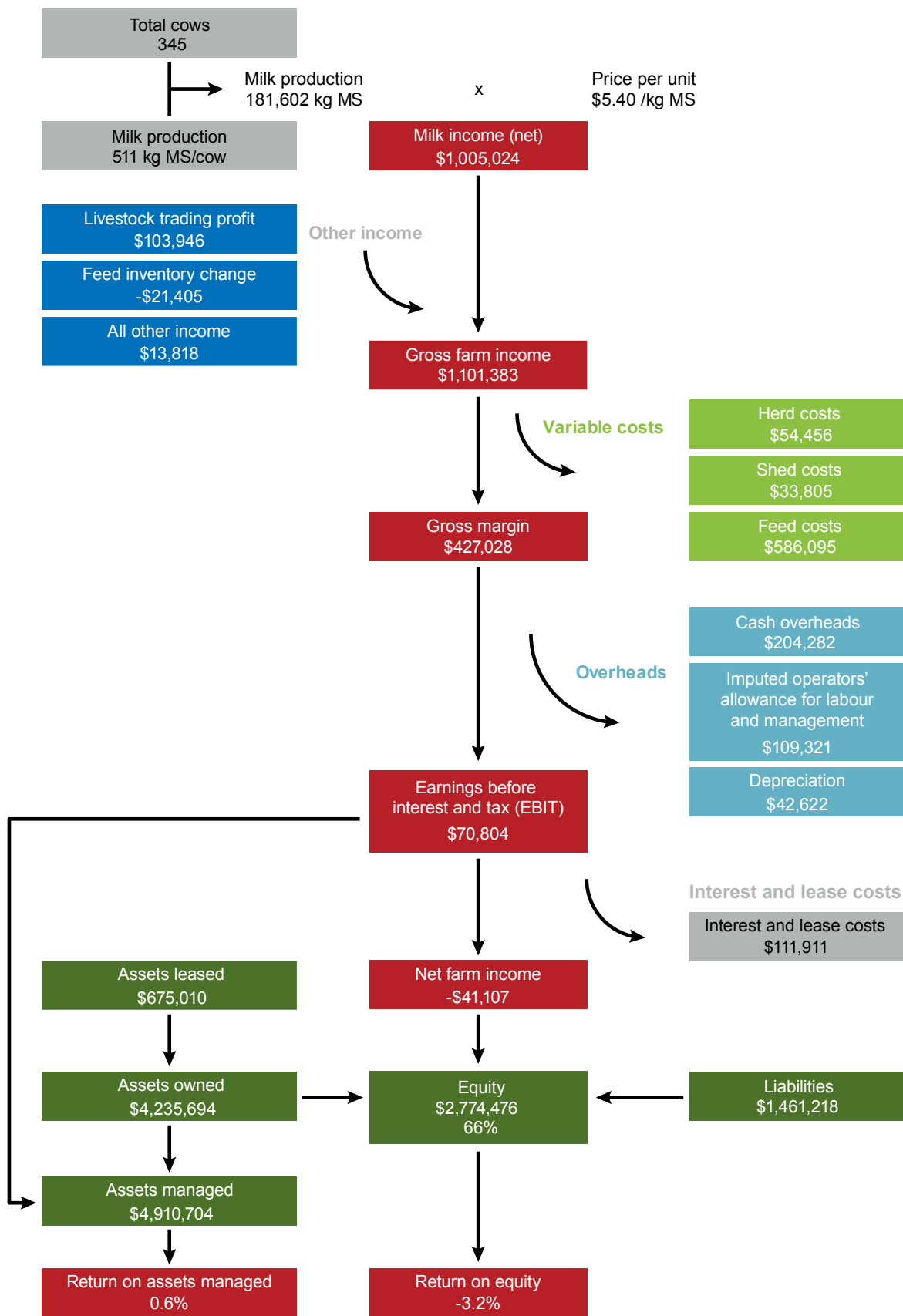
Two commonly used economic indicators of whole farm performance are return on assets (RoA) and return on equity (RoE). They measure the return to their respective capital base.

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 RoE with and without capital appreciation. This is to distinguish between productivity gains (RoE without capital appreciation) and capital gains (RoE with capital appreciation). The RoE including capital appreciation is reported in Appendix Table 1 for each region.

FIGURE 2. DAIRY FARM MONITOR PROJECT PROFIT MAP – STATE AVERAGE DATA¹
DAIRY FARM MONITOR PROJECT METHOD



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

A landscape photograph showing a vast green field in the foreground, a line of trees in the middle ground, and a blue sky with scattered white clouds in the background. The text is overlaid in the upper right corner.

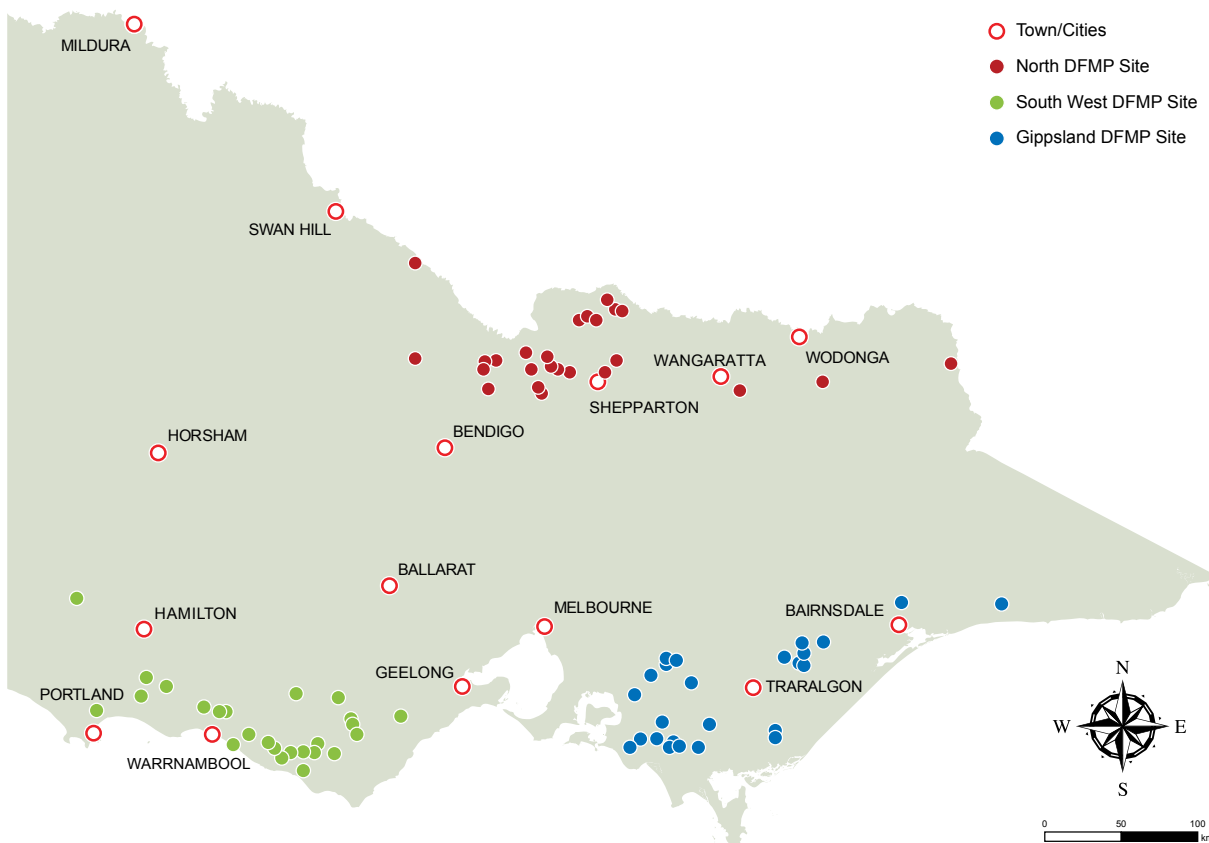
Part One:
**Statewide
overview**

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 2015-16 ACROSS VICTORIA



2015-16 Seasonal conditions

Seasonal conditions were again challenging in 2015-16, with dry conditions across the Victorian dairying regions during spring and summer. The weakening El Niño conditions provided below average rainfall and above average temperatures impacting pasture availability on most dairy farms.

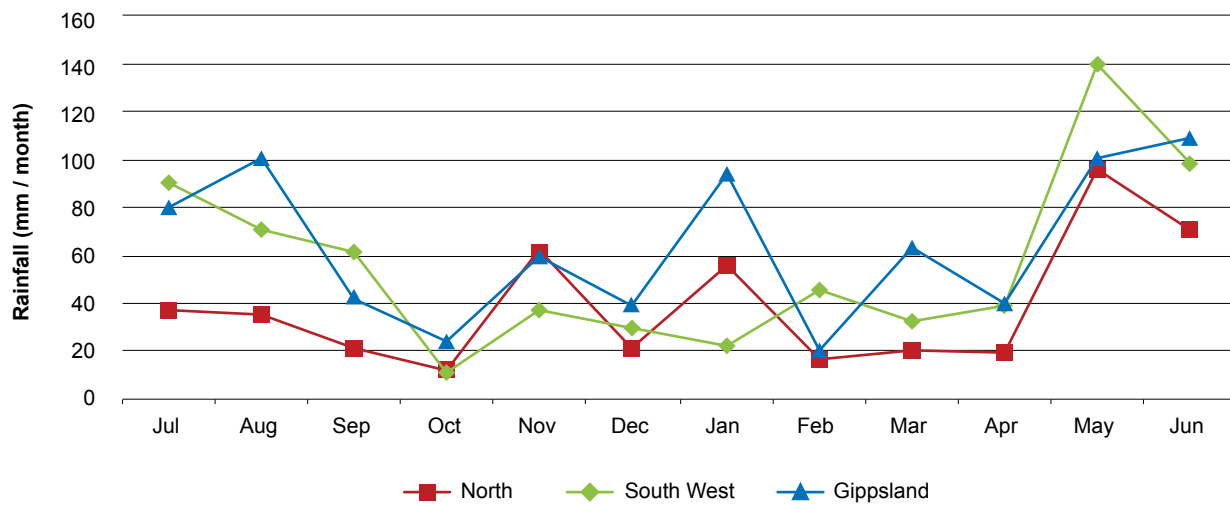
Figure 4 shows the average monthly rainfall pattern in 2015-16. The largest deficit in rainfall occurred in October in all regions, where rainfall was one quarter of the long term average. In most parts of the South West and south Gippsland it was the lowest rainfall on record for the month of October. The drier than average spring resulted in lower quantities of silage conserved and

farmers started to implement strategies to manage the remaining months of the financial year.

Farms utilised their long term fodder reserves and increased fodder purchases as a result of the decreased pasture growth. In the North, irrigation allocations of high reliability water shares reached 100% on the Murray Irrigation System, and 90% on the Goulburn. The majority of farms in the North also relied on the competitive temporary water market to supplement their water allocations.

The regional sections provide more detail on the 2015-16 seasonal conditions.

FIGURE 4. 2015-16 MONTHLY RAINFALL



Whole farm analysis

In 2015-16 Gippsland farms on average had the smallest herd size over the smallest usable area but the highest return on assets for the state. The South West had the largest herd size on the largest usable area, the lowest stocking rate and received the highest average milk price in the state. Farms in the North had close to the statewide average herd size but produced substantially higher milk solids per hectare, per cow and per labour unit.

Across the state the average herd size remained relatively unchanged at 345 cows despite minor changes between the regions. Average herd size increased in Gippsland and the South West this year, and decreased in the North.

In 2015-16 annual rainfall received was below the long term average across the state. The largest deficit in rainfall occurred in October 2015, with follow-up rain failing to produce adequate spring and summer pasture growing conditions.

Access to irrigation allocations and the combined rainfall totals resulted in more water used in both the North and South West but not in Gippsland. Across the state the average water use (irrigation plus rainfall) was 836 mm/ha compared to last year's (irrigation + rainfall) average of 818 mm/ha.

Total usable area, stocking rate and milk sold remained stable across all three regions. Labour efficiency per cow and per kg MS also remained constant over the last two years. Table 1 presents the average of key farm characteristics for the state and for each region. Further details can be found in the Appendix Table 2 for each region.

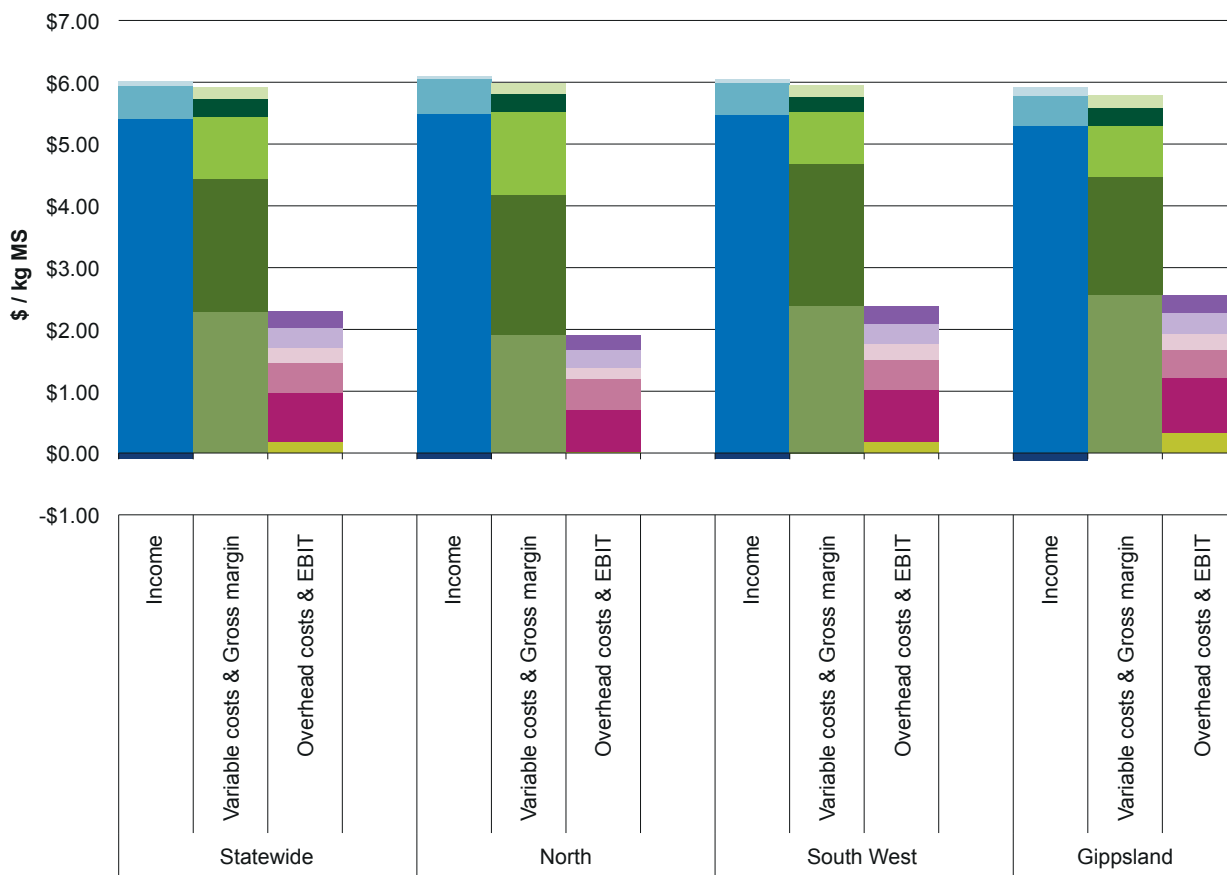
TABLE 1. FARM PHYSICAL DATA – STATE OVERVIEW

Farm physical parameters	Statewide	North	South West	Gippsland
Number of farms in sample	75	25	25	25
Herd size (max no. cows milked for at least 3 months)	345	367	378	291
Annual rainfall 2015-16 (mm)	640	468	679	773
Water used (irrigation + rainfall) (mm/ha)	836	926	689	894
Total usable area (hectares)	252	234	320	201
Stocking rate (milking cows per usable hectare)	1.6	1.9	1.2	1.7
Milk sold (kg MS/cow)	511	527	523	482
Milk sold (kg MS/ha)	818	992	625	836
Milk price received (\$/kg MS)	\$5.40	\$5.46	\$5.47	\$5.28
Labour efficiency (milking cows/FTE)	109	112	101	114
Labour efficiency (kg MS/FTE)	55,943	59,070	53,378	55,382

Figure 5 provides a visual representation of the average farm financial performance. The blue colours represent income per kilogram of milk solids (kg MS) added vertically to provide gross farm income. From gross farm income, the green variable costs can be subtracted

to give the grey gross margin values. From the gross margin, red/orange overhead costs can be subtracted to provide the yellow earnings before interest and tax. The legend for Figure 5 and the values for each category can be found in Table 2.

FIGURE 5. AVERAGE FARM FINANCIAL PERFORMANCE PER KILOGRAM OF MILK SOLIDS



See Table 2 for the legend on Figure 5

Gross farm income

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

While Figure 5 shows how much milk income dominates gross farm income, other sources are still important to the farm business. Across the state, income from sources other than milk accounted for 9% of gross farm income, the same proportion as that reported last year. The feed inventory decline across farms in all regions was

balanced by an increase in livestock trading profit, as farmers took advantage of reasonable cull cattle prices. The livestock trading profit also reflects an increase to the standard livestock values applied in 2015-16.

The average milk price for all participants was \$5.40/kg MS, an 11% decrease on the previous year. In 2015-16 milk price was the sixth lowest received in nominal terms over the 10 years of the study. When inflation is taken into account the price received was only the third lowest (in real terms).

Variable costs

Variable costs are those directly associated with production, and include costs such as animal health, contract services, supplementary feeding, agistment and pasture costs. Figure 5 shows the largest cost was purchased feed and agistment (seen as dark green) at \$2.15/kg MS for the state average. This was an increase of 13% on the previous year and was the contributing factor to the increase in variable costs seen in all regions this year.

Total feed costs, including home grown feed, purchased feed and agistment, accounted for between 50% and 60% 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 \$2.28/kg MS, a 30% decrease from 2014-15, with the top 25% reporting a gross margin of \$2.55/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 at \$28 per hour, up from \$25/hr applied in 2014-15 to account for inflation over the last 10 years.

Similar to variable costs, average overhead costs increased this year to \$2.10/kg MS. This was a 7% increase from \$1.97/kg MS last year. While repairs and maintenance costs decreased in the North and the South West, the increase in the imputed labour costs led to higher overhead costs in all regions in 2015-16.

Table 2 shows that in 2015-16 the North had the highest average variable costs as well as the lowest average overhead 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				
Feed inventory change	-\$0.09	-\$0.08	-\$0.09	-\$0.11
Other farm income	\$0.08	\$0.02	\$0.06	\$0.14
Livestock trading profit	\$0.52	\$0.58	\$0.50	\$0.48
Milk income (net)	\$5.40	\$5.46	\$5.47	\$5.28
Gross farm income	\$5.90	\$5.98	\$5.95	\$5.79
VARIABLE COSTS				
Shed cost	\$0.19	\$0.18	\$0.19	\$0.20
Herd cost	\$0.28	\$0.30	\$0.24	\$0.30
Home grown feed cost	\$1.00	\$1.34	\$0.84	\$0.83
Purchased feed and agistment	\$2.15	\$2.25	\$2.30	\$1.91
Total variable costs	\$3.62	\$4.06	\$3.57	\$3.24
GROSS MARGIN				
per kilogram of milk solids	\$2.28	\$1.92	\$2.38	\$2.55
OVERHEAD COSTS				
All other overheads	\$0.27	\$0.23	\$0.28	\$0.29
Repairs and maintenance	\$0.32	\$0.29	\$0.33	\$0.33
Depreciation	\$0.24	\$0.21	\$0.26	\$0.25
Employed labour	\$0.48	\$0.49	\$0.48	\$0.47
Imputed owner/operator and family labour	\$0.79	\$0.66	\$0.84	\$0.88
Total overhead costs	\$2.10	\$1.89	\$2.19	\$2.22
EARNINGS BEFORE INTEREST AND TAX				
per kilogram of milk solids	\$0.18	\$0.03	\$0.18	\$0.33

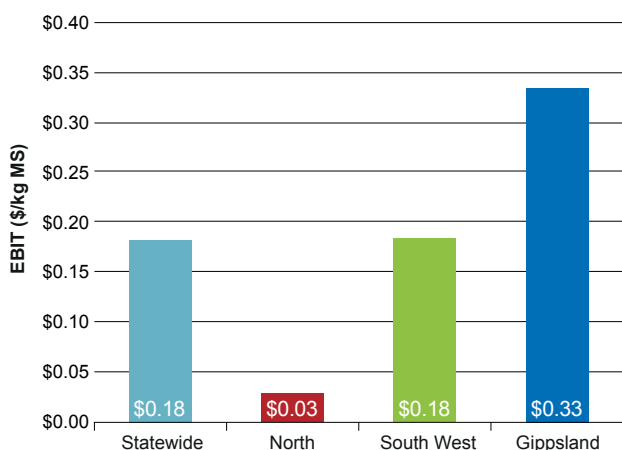
Earnings before interest and tax

Earnings before interest and tax 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 lower across the state this year with an average of \$0.18/kg MS compared to \$1.25/kg MS in 2014-15 and \$2.00/kg MS in 2013-14. The decrease in EBIT occurred across all regions with falls of 97% recorded in the North on average, 85% in the South West and 75% in Gippsland.

Figures 18, 28 and 38 in the regional sections present the EBIT of sample farms this year alongside the respective current and previous year's regional average.

FIGURE 6. AVERAGE EARNINGS BEFORE INTEREST AND TAX PER KILOGRAM OF MILK SOLIDS SOLD

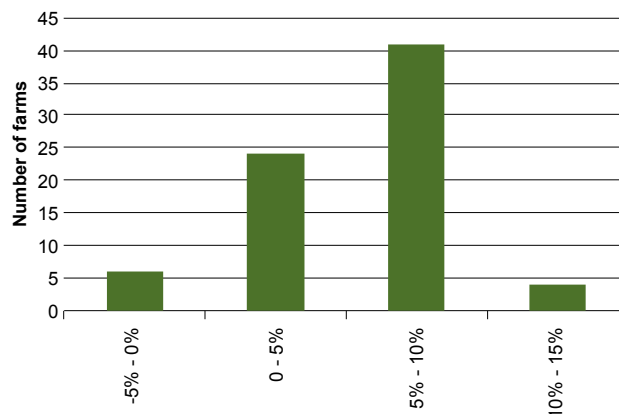


Return on assets and equity

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 RoA for participants across the state was 0.6%, down from 5.3% last year and lower than 8.5% reported in 2013-14. The range in RoA was greater in 2015-16 compared to the previous year, extending from -8.8% to 6.9%. The greater range this year is a reflection of the challenging operating conditions impacting farms' ability to generate an income from the total assets in the business. Over half the dataset recorded a positive RoA (45 of the 75 farms). Figure 7 shows the majority of farms had a RoA between -5% and +5%.

FIGURE 7. DISTRIBUTION OF FARMS BY RETURN ON ASSETS



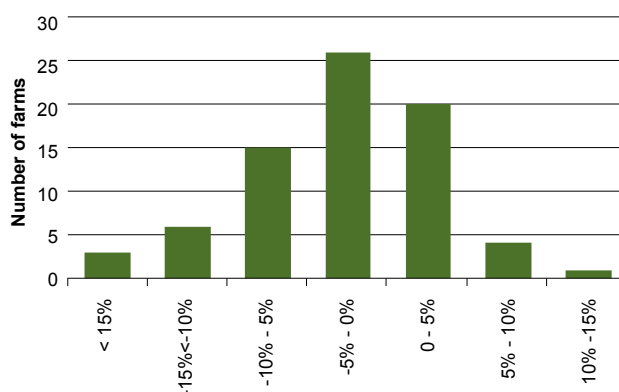
Return on equity is the net farm income (earnings before interest and tax less interest and lease charges) expressed as a percentage of owner's equity. Items not accounted for in net farm income are capital expenditure, principal loan repayments and tax. Return on equity is a measure of the owners' rate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

The average RoE for the 75 farms was -3.2% compared with 5.2% in 2014-15 and 11.6% in 2013-14.

The median RoE was -2.7% with a range from negative 27.2% to 12.5% with a relatively uniform distribution (Figure 8). The RoE extremes seen in the dataset were recorded by farms located in the North region.

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

FIGURE 8. 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

	Statewide	North	South West	Gippsland
Cost structure (proportion of total costs that are variable costs)	63%	68%	62%	60%
Debt services ratio (percentage of income as finance costs)	10%	8%	11%	11%
Debt per cow	\$4,122	\$3,585	\$4,707	\$4,261
Equity percentage (ownership of total assets managed)	66%	66%	65%	66%
Percentage of feed imported (as a % of total ME)	47%	50%	49%	41%

Exposure to risk in business is entirely rational if not unavoidable. 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 indicators, given it is measured against the product produced and sold currently and not the capital invested.

The cost structure ratio provides variable costs as a proportion of total costs. A lower ratio implies that overhead costs comprised a greater proportion of total costs which in turn indicates less flexibility in the business. Table 3 shows that across the state for every \$1.00 spent, \$0.63 was used to cover variable costs, however it is worth noting that cost structure varies between regions and farms. One hundred minus this percentage gives the proportion of total costs that are overhead costs.

The debt services ratio shows interest and lease costs, as a proportion of gross farm income. The ratio of 10% this year is similar to 9% noted last year. It indicates that on average farms repaid \$0.10 of every dollar of gross farm income to their creditors.

Equity levels across the state increased this year, with a state average of 66% reported in 2015-16 compared to 62% the previous year. The equity levels are very similar between regions in 2015-16. Caution should be exercised when comparing equity between years as the farms in the sample changes.

The benefit of taking risks and borrowing money can be seen when farm incomes yield a higher RoE than on their RoA. When the percentage of RoE increases compared to RoA, it is the result of a higher return from the additional assets than the interest or lease rate. In 2015-16, only 9 of the 75 (12%) participant farms received a RoE greater than their RoA. Last year 31 of the 75 (or 41%) participant farms achieved this.

This year, all farms in the DFMP sourced at least some of their metabolisable energy (ME) from imported feeds and are therefore were somewhat exposed to fluctuations in prices and supply in the market for feed. In 2015-16 on average, all regions sourced an increased proportion of their diet from imported feed compared to 2014-15, reflecting the challenging climatic conditions.

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 9. 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 53%. Gippsland farms also had a lower reliance on fodder with 6% of their ME coming from hay and 9% from silage.

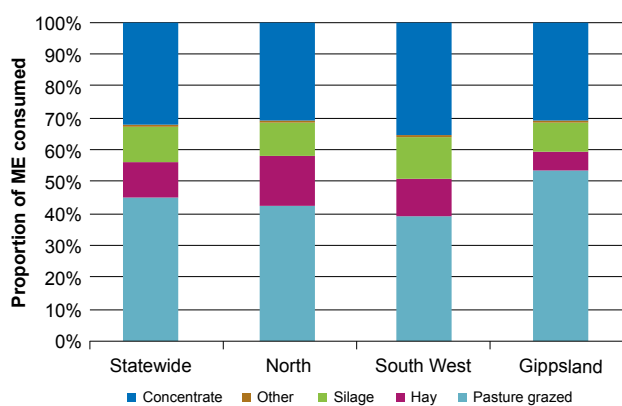
The North sourced the lowest amount of ME (43%) from direct grazed pasture compared to the other regions. This was lower than the 47% sourced last year. Farms in this region had the greatest reliance on hay (16%) of all the regions, and sourced 10% of the ME from silage.

The South West had the largest decrease in direct grazed pasture of all the regions, falling from 51% last year to 40% this year. There was a general increase in hay (12%), silage (13%) and concentrates (35%) for the remaining ME requirements.

Concentrates supply the greatest proportion of ME of all the supplements fed, accounting for approximately one-third of the diet. The average proportion of ME sourced from concentrates was 31% in the North, 35% in the South West and 31% in Gippsland.

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

FIGURE 9. SOURCES OF WHOLE FARM METABOLISABLE ENERGY



The average estimated home grown feed consumed per milking hectare is shown in Figure 10. Both Figures 9 and 10 were estimated using DEDJTR's Pasture Consumption Calculator which is also available online at <http://dairypastureconsumptioncalculator.com.au>.

Initially, 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 (by direct grazing plus conservation) in 2015-16 was 7.0 t DM/ha, which was lower than the 7.7 t DM/ha recorded on average for the state in 2014-15. The lower pasture consumption in 2015-16 reflects the drier than average spring and warmer temperatures across the year.

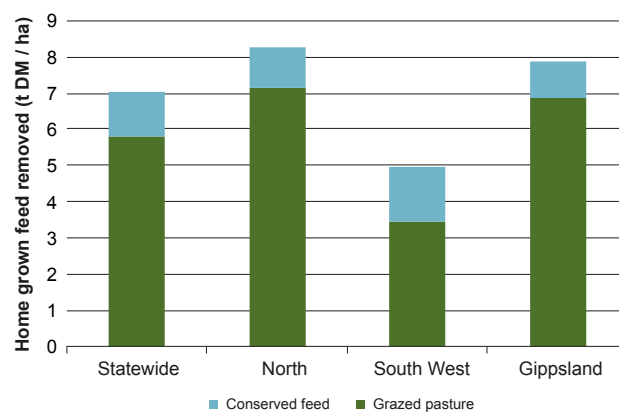
The North directly grazed 7.1 t DM/ha and conserved 1.1 t DM/ha compared with 7.6 and 1.2 t DM/ha respectively last year.

The South West consumed an average of 3.4 t DM/ha of direct grazed pasture, 1.1 t DM/ha less than last year and conserved 0.3 t DM/ha more pasture compared to the previous year.

Gippsland also followed the trend of lower pasture consumption in 2015-16, with the average falling from 7.4 t DM/ha of direct grazed pasture in 2014-15 to 6.9 t DM/ha this year. Conserved pasture also slightly decreased by 0.1 t DM/ha to 1.0 t DM/ha this year.

Figure 10 and Appendix Table 2 gives estimates of 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 10. ESTIMATED TONNES OF HOME GROWN FEED CONSUMED PER MILKING HECTARE



Fertiliser application

Application of nutrients was 10% lower on average compared to the previous year, with the largest decrease (on a % basis) in phosphorus application.

While the North had the highest pasture consumption and the lowest amount of nutrients applied per hectare, care must be noted as pasture consumption is calculated on the milking area, whereas nutrient application is calculated on the usable area. In contrast, Gippsland had similarly high pasture consumption but used far greater amounts of nutrients on the usable area. This trend is similar to that seen in 2014-15.

The North applied nitrogen at 80 kg/ha, approximately 70% of the state average, phosphorus at 14 kg/ha, potassium at 15 kg/ha and sulphur at 20 kg/ha. This compares with last year's average of 76, 21, 8 and 19 kg/ha, respectively.

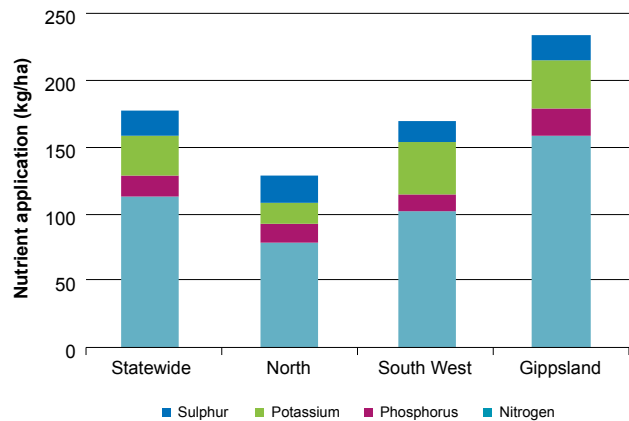
The South West farms on average used less macro nutrients than the previous year. This was the only region that saw a decrease across all macro nutrients applied. This was one area where South West farms reduced their expenditure this year (on a total dollar basis; reducing from \$100,597 in 2014-15 to \$87,036 in 2015-16). Average nitrogen use was 102 kg/ha, phosphorus was 13 kg/ha, potassium 39 kg/ha and sulphur 14 kg/ha.

Across Gippsland farms average nitrogen and potassium applied decreased by approximately 15% while phosphorus and sulphur increased by 10% and 5%, respectively. Average nitrogen applied was 158 kg/ha, phosphorus 21 kg/ha, potassium 36 kg/ha and sulphur 20 kg/ha.

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 11. NUTRIENT APPLICATION PER HECTARE



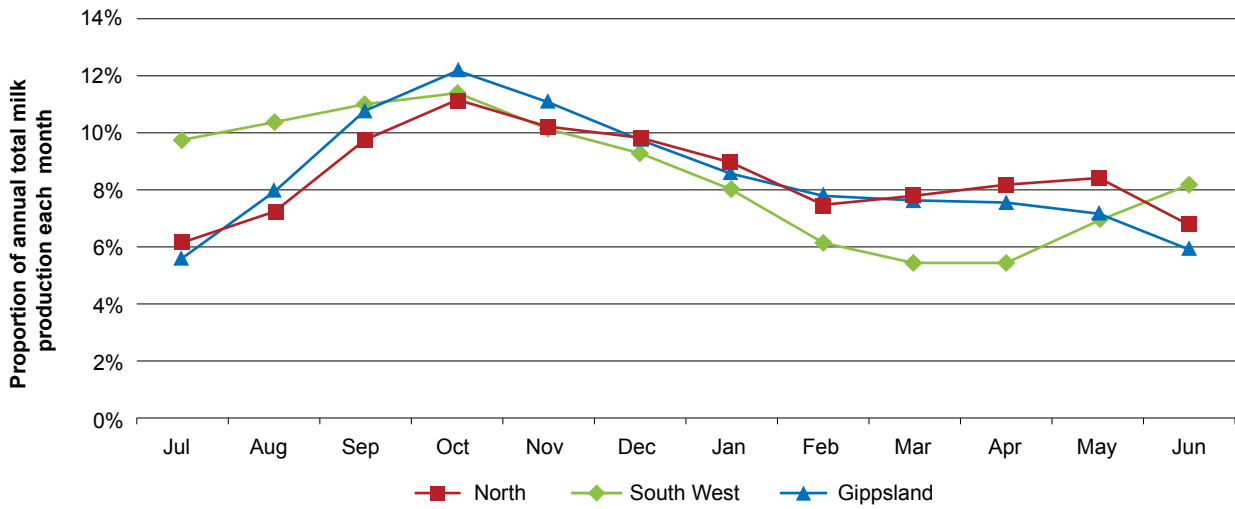
Milk production

Spring provided the main production peak in all regions across the state (Figure 12).

The North in 2015-16 had another small peak in mid-autumn while the South West had a corresponding drop before increasing in May 2016. The majority of Gippsland milk is produced in spring with 34% of milk production sold between September and November.

The lower pasture consumption in 2015-16 reflects the drier than average spring and warmer temperatures across the year.

FIGURE 12. 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 12 and 13.

The red line shows the North had the greatest proportion of calves born in August followed by the first peak in milk production occurring two months later in October. Similarly another spike in the proportion of calves born in March corresponded with a second peak in milk production in mid-autumn.

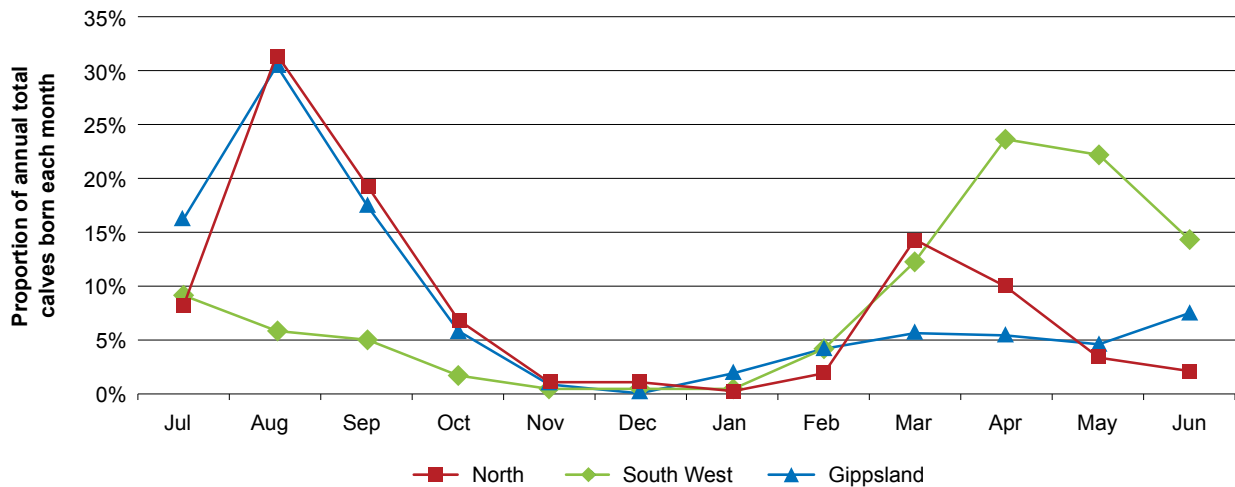
Gippsland farms were predominately seasonal, spring calving with the majority of calves born between July and September. The peak milk production corresponds

to this calving pattern a few months later, with the greatest proportion (12%) of milk produced in October, as shown by the blue line.

The South West calving pattern, indicated by the green line, shows that the month with the greatest proportion of calves born was April, similar to last year with 24% of calves being born in that month. This was followed by an increase in milk production from June through to October, with over half the region's calves being born in April, May and June.

Similar to previous years approximately 5% of calves were born in the summer months, between December and February across all regions.

FIGURE 13. MONTHLY DISTRIBUTION OF CALVES BORN



Part Two: **The North**



The North

Farms NO0012 and NO0060 were included in last year's report, NO0040 returned to the dataset after withdrawing last year and farms NO0061 to NO0064 were new to the Dairy Farm Monitor Project (DFMP) this year. Please refer to page 3 for notes on the presentation of data.

2015-16 Seasonal conditions

The combination of below average rainfall, higher temperatures and a competitive temporary water market provided challenging operating conditions for Northern Victoria farmers in 2015-16.

Water cost and availability were a concern for Northern Victoria dairy farms this year. The irrigation season started with early rainfall events, however the season delivered below average spring rainfall and higher temperatures, impacting fodder conservation and pasture availability. The temporary water price rose dramatically and particularly impacted those farmers who had waited to purchase irrigation water. By the end of the irrigation season the Murray Irrigation System closed at 100 per cent high reliability water shares and the Goulburn Irrigation System at 90 per cent. The reliance on temporary water has been one of the biggest impacts on profits for farms in the North in 2015-16.

While annual rainfall was above last year's average at 468 mm, it was below the long term average of 487 mm (Figure 14). The temporary irrigation water price was dramatically elevated compared to last year with the average price increasing from \$120/ML to \$236/ML for those farmers who purchased temporary water. With these higher water prices, participant farmers used less irrigation water per irrigated hectare to grow their pastures and crops on average.

Farmers focused on using water strategically and looked to dry off underperforming pastures early and

concentrated on growing summer fodder crops or securing fodder. The fodder market was competitive which was reflective of the lower fodder conservation levels and reduced long term fodder reserves. As a result, farms in the North sample purchased greater hay and silage tonnages at higher prices compared to the previous year.

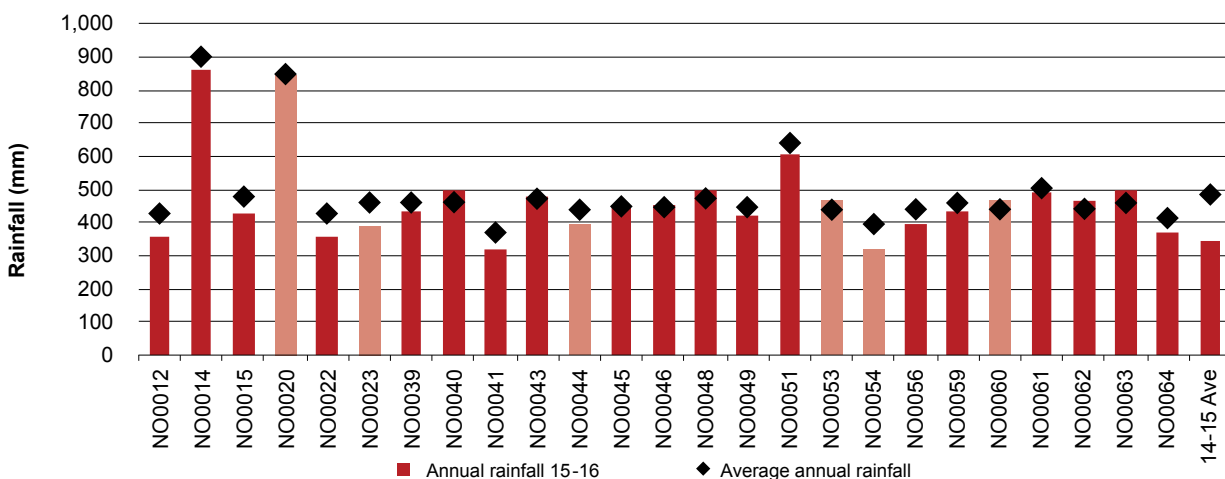
The warmer start to March led farmers to sow pastures earlier than usual, however the continued high temperatures resulted in poor establishment. This saw many farms re-sowing large areas and the North-East was impacted by black beetle infestations, which required re-sowing.

Total milk production (litres) across northern Victoria decreased by 4.1% compared to the previous year, with the main decrease occurring in June 2016. Some farmers were able to improve their cash flow position by selling cull cattle at elevated prices.

An added concern for farm profitability in 2015-16 was the lower average milk price, falling from \$6.09/kg MS last year, to \$5.46/kg MS this year. The farms in the North also had the greatest spread in milk price of all the regions, with a range from \$4.67/kg MS up to \$6.26/kg MS.

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

FIGURE 14. 2015-16 ANNUAL RAINFALL AND LONG TERM AVERAGE RAINFALL – NORTH



Whole farm analysis

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.

The majority of farms in the North were characterised by a usable area between 120 and 263 hectares, milk production between 481 and 543 kg MS/cow and consumed between 43 and 57% of their metabolisable energy (ME) from home grown feeds.

The average and the top 25% of farms (ranked by RoA) had similar characteristics for milking cows per usable hectares at 1.9, consume approximately half of their

ME from home grown feeds and share similar labour efficiency at 112 and 115 cows/FTE, respectively.

More significantly, the physical parameters where the top performers outperformed the majority (Q1 – Q3) of farms, were greater milk sold per cow and labour efficiency (kg MS/FTE). The higher labour efficiency indicates that some used labour more efficiently than others on a milk production basis.

TABLE 4. FARM PHYSICAL DATA – NORTH

Farm Physical Parameters	North Average	Q1 to Q3 range	Top 25% average
Annual rainfall 15-16 (mm)	468	395 – 493	481
Water used (irrigation + rainfall) (mm/ha)	926	780 – 1,036	960
Total usable area (hectares)	234	120 – 263	334
Milking cows per usable hectare	1.9	1.3 – 2.4	1.9
Milk sold (kg MS/cow)	527	481 – 543	579
Milk sold (kg MS/ha)	992	657 – 1,254	1,096
Home grown feed as % of ME consumed	50%	43% – 57%	49%
Labour efficiency (milking cows/FTE)	112	101 – 127	115
Labour efficiency (kg MS/FTE)	59,070	48,721 – 65,184	67,371

Gross farm income

Gross farm income includes all farm income, whether it is income from milk sales, changes in inventories of stock or feed, or cash income from livestock trading. For farms in the North, carry over water inventory change is also included in other income. Carry over water was valued at \$200/ML at the start of the financial year and \$230/ML at closing, reflecting water trade in the irrigation region.

The average gross farm income of \$5.98/kg MS included milk income (\$5.46/kg MS) plus all other income associated with the dairy business operation (\$0.52/kg MS). Figure 15

shows this year's average gross farm income was 10% lower than last year's average. The lower milk price received contributed to most of this change with a fall of 10% to \$5.46/kg MS received in 2015-16 from \$6.09/kg MS received in 2014-15, and down from \$6.83/kg MS received in 2013-14.

The unfavourable spring conditions saw lower quantities of fodder being conserved which resulted in a negative \$0.08/kg MS fodder inventory change.

FIGURE 15. GROSS FARM INCOME PER KILOGRAM OF MILK SOLIDS – NORTH



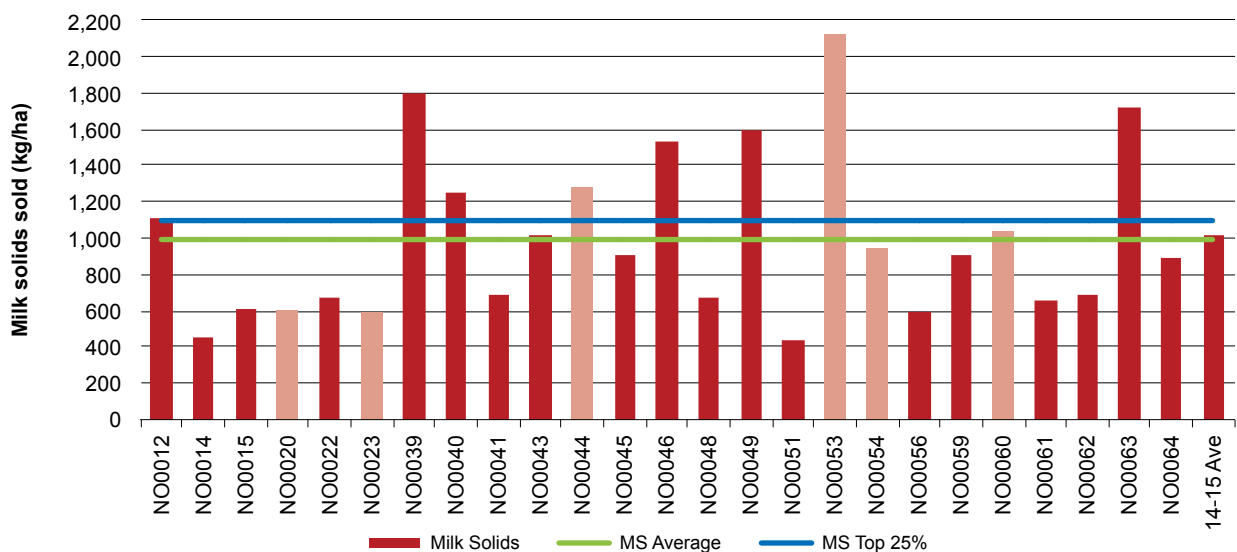
Milk solids sold

Figure 16 shows the kilograms of milk solids sold per usable hectare for each farm. Average milk solids sold per hectare decreased slightly this year to 992 kg MS/ha, shown as the green line in Figure 16. The range this year was between 439 kg MS/ha and 2,121 kg MS/ha; which was lower than last year's range of 475 to 2,284 kg MS.

The average of the top performing group, as shown by the blue line in Figure 16, decreased notably from 1,454 kg MS/ha in 2014-15 down to 1,096 kg MS/ha, mainly due to a change in the composition of farms in the group.

The range in milk sold was almost as great for the top performing group as it was for the average. This suggests that those farms in the top performing group with low milk sold, for instance NO0020 and NO0023, have other attributes that contribute to their strong performance.

FIGURE 16. MILK SOLIDS SOLD PER HECTARE – NORTH



Variable costs

Variable costs include herd, shed and feed costs, and are shown as the blue bars in Figure 17. On average, variable costs increased 10% in 2015-16 to \$4.06/kg MS, up from \$3.69/kg MS last year. Variable costs ranged widely from \$2.97/kg MS (NO0061) to \$5.17/kg MS (NO0063) for farms in the North.

Herd and shed costs remained relatively unchanged between years at \$0.30/kg MS and \$0.18/kg MS, respectively.

Feed costs were up 12% on last year and accounted for 60% of total costs (variable plus overhead costs). Table 5 shows that both home grown feed and purchased feed costs increased in 2015-16, with the major increases in irrigation and purchased fodder costs.

Irrigation costs increased 40%, from \$0.48/kg MS to \$0.67/kg MS, on the back of a doubling of temporary water prices. While the quantity of purchased water decreased by 11% on average, for those farmers that purchased temporary water, the price increased from \$120/ML to \$236/ML this year.

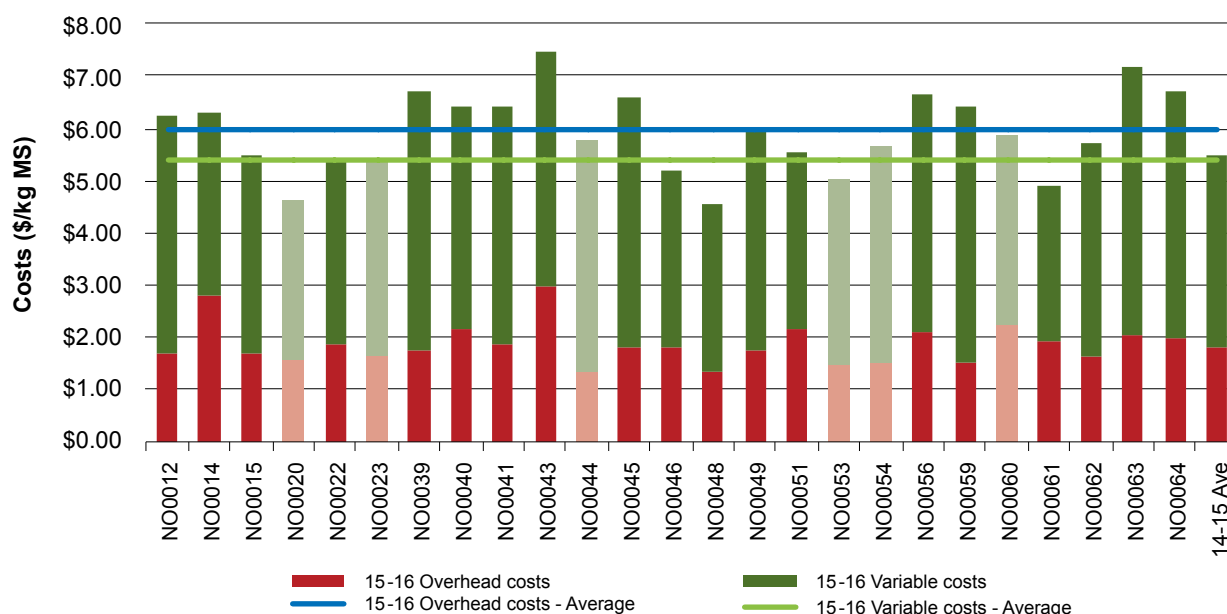
Fodder purchases increased 47%, up to \$0.66/kg MS as farmers supplemented their animal ME requirements on the fodder market. The price of purchased silage increased 45%, up to \$292/t DM in 2015-16, whereas purchased hay price decreased 12% to \$223/t DM. Hay fed increased 0.2 t DM/cow in response to the challenging seasonal conditions.

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. The overhead costs this year ranged from \$1.37/kg MS to \$3.01/kg MS (shown as red bars in Figure 17).

The average overhead costs for 2015-16 were \$1.89/kg MS; very similar to \$1.84/kg MS recorded last year. There was a 10% decrease in repairs and maintenance while imputed labour costs increased as a result of a change in the imputed labour rate. The average total labour units was 3.3 full time equivalents (FTE), with owner operator contributing 1.5 FTE/farm and employed labour 1.8 FTE/farm. This ratio remains unchanged from last year.

FIGURE 17. 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 lower average cost of production with inventory changes at \$5.53/kg MS, compared with an average of \$6.18/kg MS for the North

TABLE 5. COST OF PRODUCTION – NORTH

Farm costs (\$/kg MS)	North average	Q1 to Q3 range	Top 25% average
VARIABLE COSTS			
Herd costs	\$0.30	\$0.24 - \$0.35	\$0.34
Shed costs	\$0.18	\$0.14 - \$0.19	\$0.13
Purchased feed and agistment	\$2.25	\$1.90 - \$2.57	\$2.20
Home grown feed cost	\$1.34	\$1.09 - \$1.57	\$1.09
Total variable costs (\$/kg MS)	\$4.06	\$3.50 - \$4.54	\$3.76
OVERHEAD COSTS			
Employed labour cost	\$0.49	\$0.35 - \$0.65	\$0.50
Repairs and maintenance	\$0.29	\$0.20 - \$0.36	\$0.26
Other other cash overheads	\$0.23	\$0.18 - \$0.29	\$0.18
Total cash overheads	\$1.02	\$0.93 - \$1.14	\$0.94
Cash cost of production	\$5.08	\$4.6 - \$5.62	\$4.70
Depreciation	\$0.21	\$0.11 - \$0.21	\$0.17
Imputed labour costs	\$0.66	\$0.52 - \$0.70	\$0.55
Total non-cash overheads	\$0.87	\$0.66 - \$1.08	\$0.71
Cost of production w/out inventory change (\$/kg MS)	\$5.95	\$5.42 - \$6.46	\$5.42
INVENTORY CHANGE			
+/- inventory change	\$0.08	-\$0.01 - \$0.14	\$0.22
+/- livestock inventory change – purchases	\$0.15	-\$0.16 - \$0.28	-\$0.10
Cost of production with inventory change (\$/kg MS)	\$6.18	\$5.65 - \$6.62	\$5.53

Earnings before interest and tax

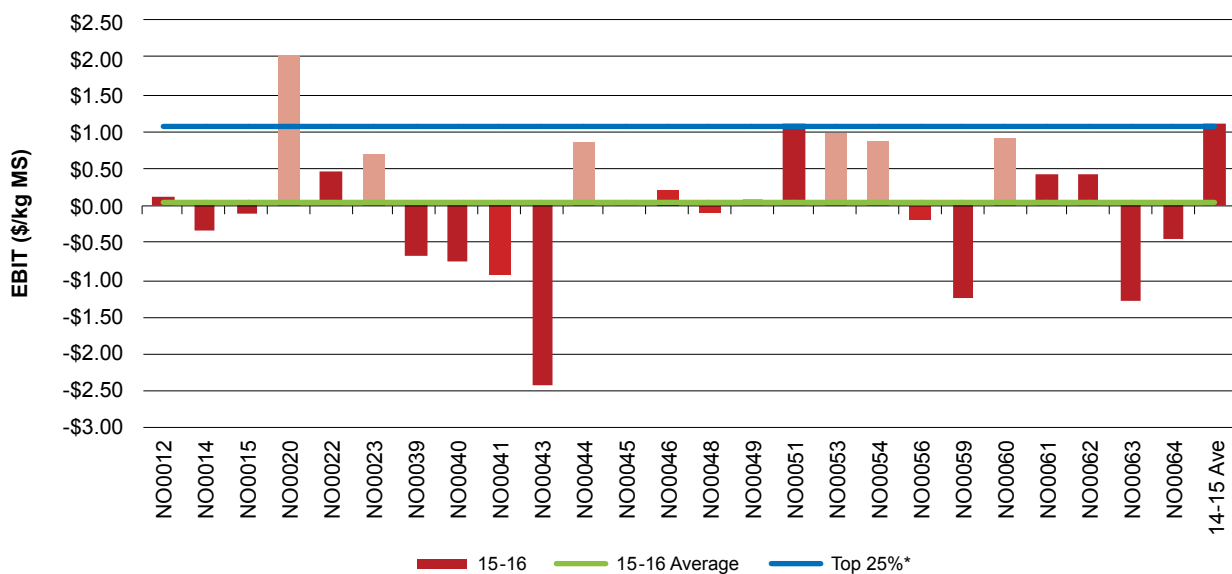
Earnings before interest and tax is gross farm income less variable and overhead costs. Figure 18 shows the average EBIT decreased from \$1.10/kg MS last year (far right column) to \$0.03/kg MS (green line). This is also lower than the average of \$2.02/kg MS recorded in 2013-14.

The range in EBIT has widened since last year, with a spread from -\$2.40/kg MS up to \$2.03/kg MS. Fourteen of the 25 farms recorded a positive EBIT compared to 2014-15 when 23 of the 25 farms recorded a positive EBIT. The variation in farm profits in the North was attributable to the largest variation seen in milk price of all the regions in 2015-16, the reliance and exposure to the temporary water market among farms, and the differing requirements for fodder purchases.

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 \$1.05/kg MS, highlighting the strength of well run businesses in the region. The data also demonstrates that having a high EBIT \$/kg MS does not necessarily translate into a high RoA as seen when comparing Figures 18 and 19.

FIGURE 18.
WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER KILOGRAM OF MILK SOLIDS – NORTH



Return on assets and equity

Return on assets 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 19 and 20 presenting RoA and RoE respectively exclude capital appreciation. For RoE including capital appreciation refer to Appendix Table B1.

The North posted a RoA of -0.1%, which was noticeably lower than 6.1% recorded by the group last year. This was the second time the North posted a negative RoA over the history of the project. The average of the top performing group was 4.6%, also significantly lower than the 12.1% recorded last year.

Return on equity is the net farm income expressed as a percentage of owner equity. It is a measure of the owner's rate of return on investment. The average RoE was -4.4%, down from 5.1% recorded last year. In 2013-14, RoE was 14.2%, and in 2012-13 it was similar to this year at -2.9%.

There was a wide range of RoE reflecting the various capital structures of businesses in Northern Victoria. This year the top 25% performers achieved an average of 5.0% RoE as seen in Figure 20.

FIGURE 19. RETURN ON ASSETS – NORTH

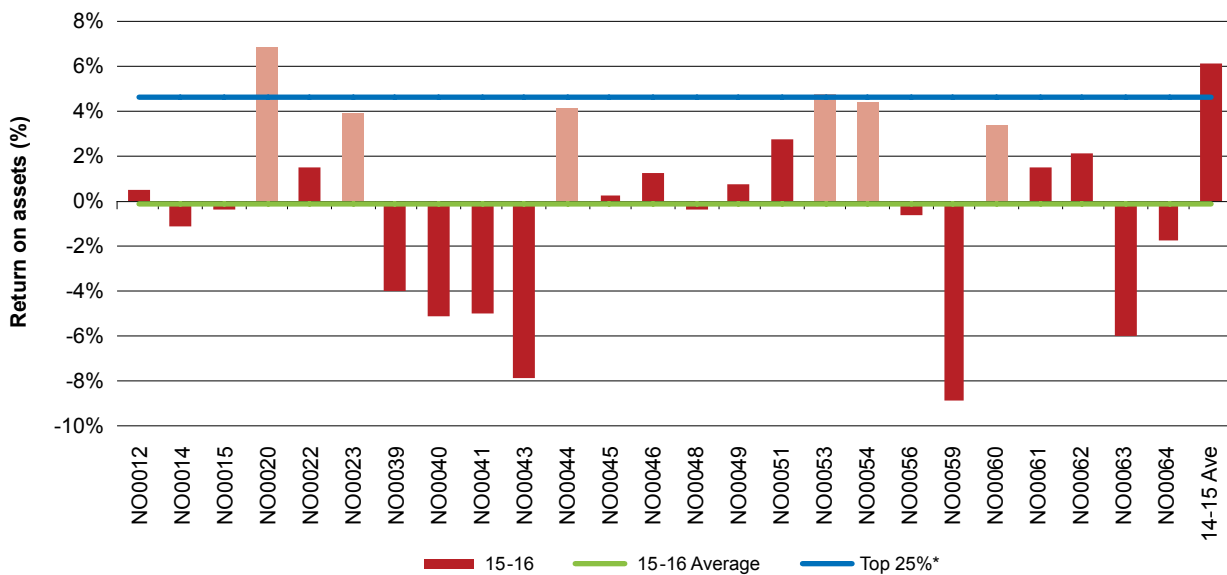
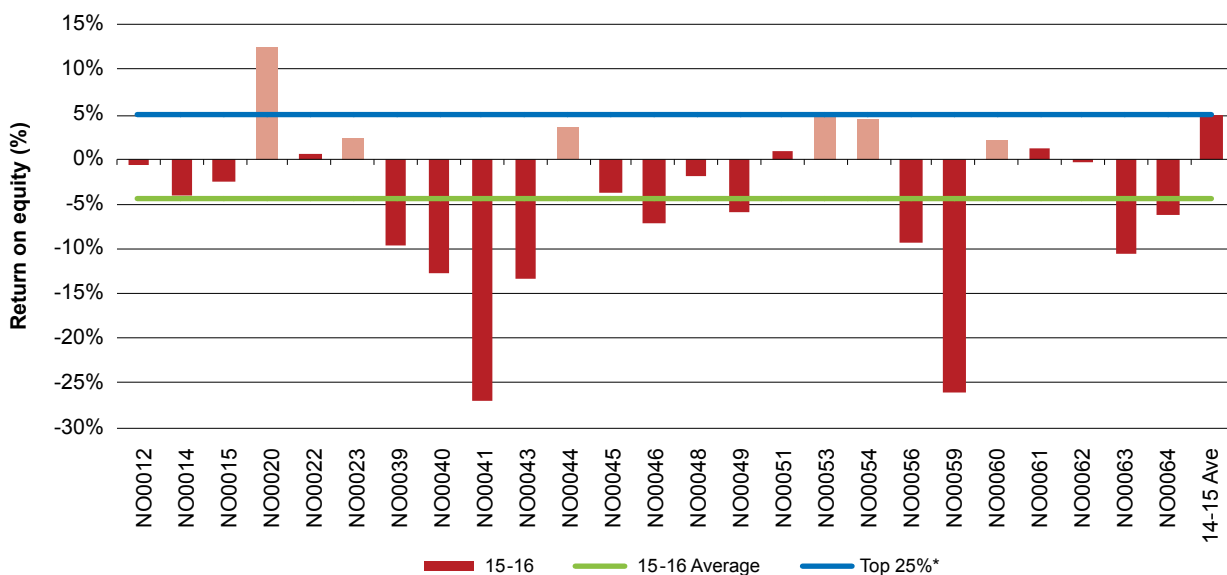


FIGURE 20. RETURN ON EQUITY – NORTH



Feed consumption and fertiliser

Farms in the North exhibited a wide range of feeding systems. Directly grazed pasture was not the dominant source of metabolisable energy on half of the farms in this region; 43% of the diet was sourced from grazed pasture.

The relative contribution of each feed type to the metabolisable energy (ME) consumption on each farm is shown in Figure 21. 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 six of the 25 farms. Participant farms in the North sourced between 20% and 40% of the ME consumed

from concentrates. All participant farms fed hay as part of the ME consumed, with a range of between 3% and 33%. Silage accounted for up to 36% of ME consumed.

'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 21. SOURCES OF WHOLE FARM METABOLISABLE ENERGY – NORTH

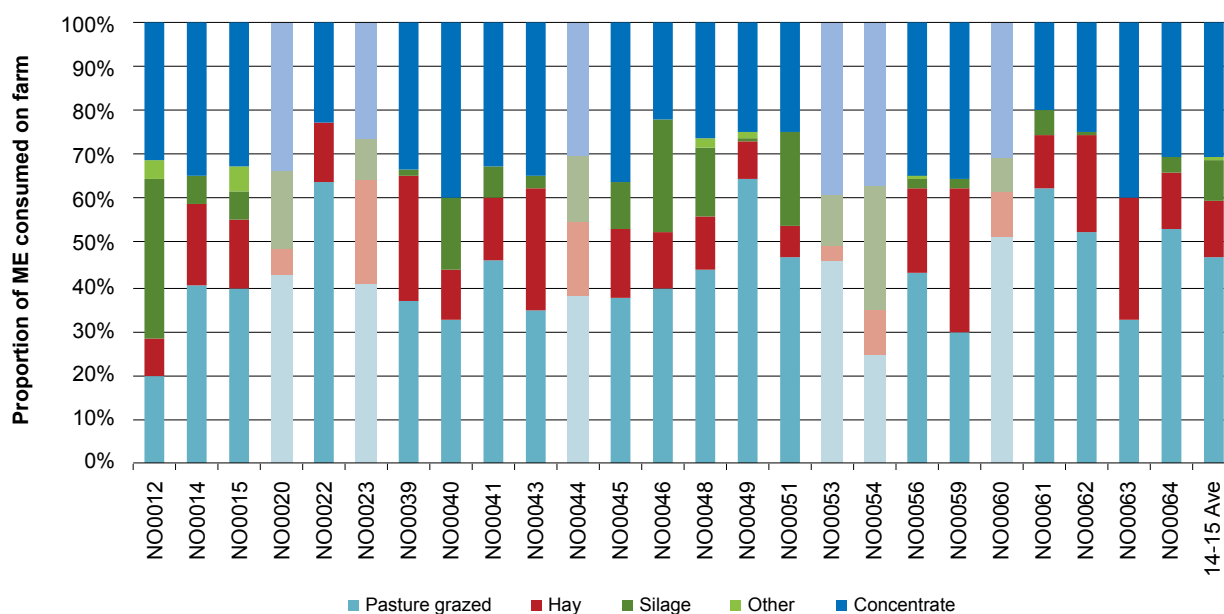


Figure 22 shows the estimated home grown feed consumed per milking hectare for farms in the North.

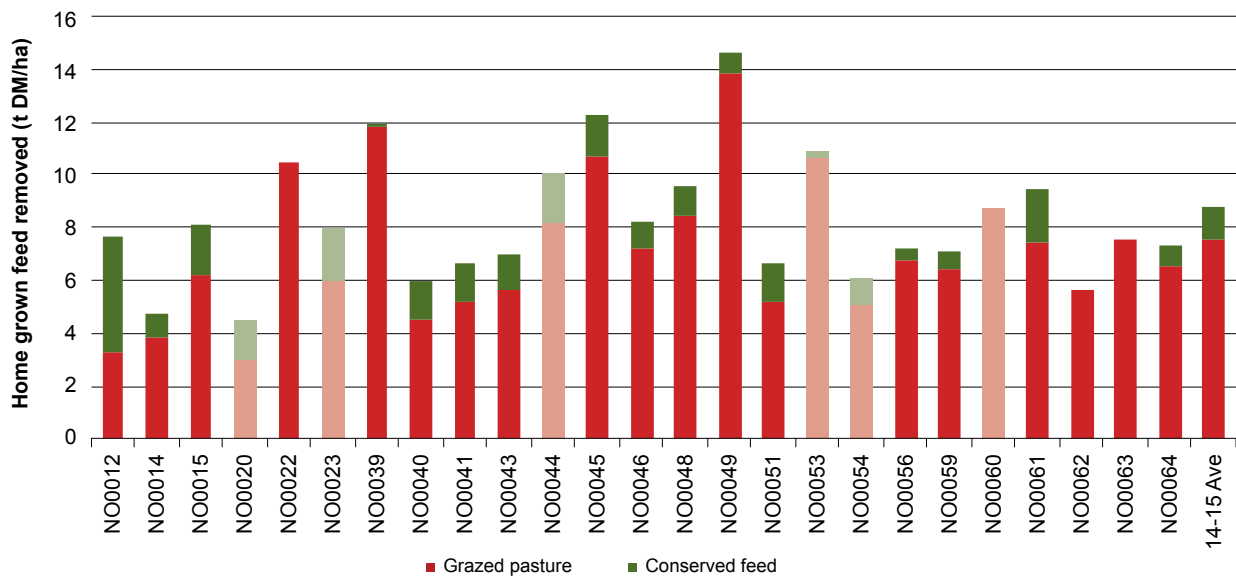
The challenging spring and summer conditions during 2015-16 resulted in lower pasture harvested compared with the previous year. Total pasture harvested on the milking area (grazed plus conserved) decreased from 8.8 t DM/ha last year to 8.2 t DM/ha this year. There was a decrease in the amount of directly 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 adding to variable costs this year.

Grazed pasture consumption was estimated by using a back calculation method. It should be noted that there can be a number of sources of error in this method 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.

More details on how pasture consumption was calculated can be found in Part one – Statewide overview or in Appendix E.

FIGURE 22. ESTIMATED TONNES OF HOME GROWN FEED CONSUMED PER MILKING HECTARE – NORTH

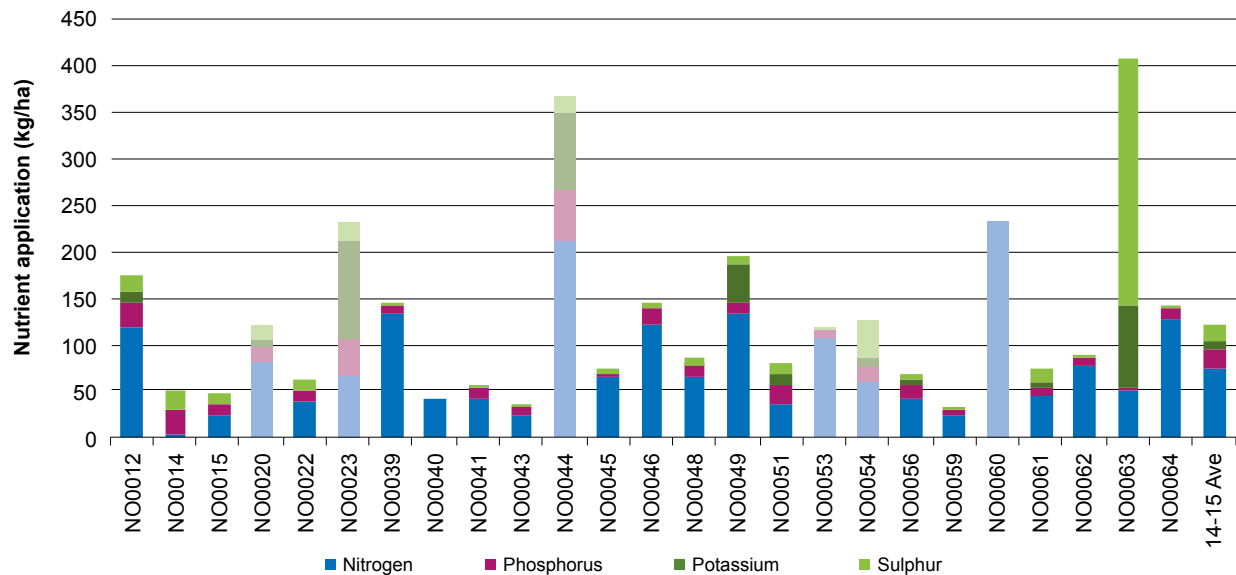


Fertiliser application

All farms in the North applied fertiliser to their crops and pasture (Figure 23). Farms increased their use of nitrogen, potassium and sulphur, but decreased their use of phosphorus.

Average nitrogen use was 80 kg/ha, compared with 76 kg/ha in 2014-15. More potassium and sulphur were applied this year at 15 kg/ha and 20 kg/ha respectively. However phosphorus application decreased from 20 kg/ha last year to 14 kg/ha this year.

FIGURE 23. NUTRIENT APPLICATION PER HECTARE – NORTH



Part Three:
The South West



The South West

In 2015-16, Farm SW0020 returned to the project and SW0049 participated for the first time.

2015-16 Seasonal conditions

Similar to last year, drier seasonal conditions prevailed throughout 2015-16, with below average rainfall received by South West farms. The largest deficit in rainfall occurred in October 2015, with follow-up rain failing to produce adequate spring and summer pasture growing conditions. Fodder levels declined on farm, as it was fed out early to reduce the effect of low pasture availability. Slightly more conserved fodder offset the season, but purchased feed was still required to see out the financial year. Lower milk prices compounded the poor season significantly lowering returns this year.

Drier seasonal conditions prevailed throughout 2015-16, with below average rainfall across the South West for most of the year. Similar to 2014-15 (shown by the last green column in Figure 24), rainfall was below average across the South West of Victoria. The South West received 81% of long-term average rainfall in 2015-16.

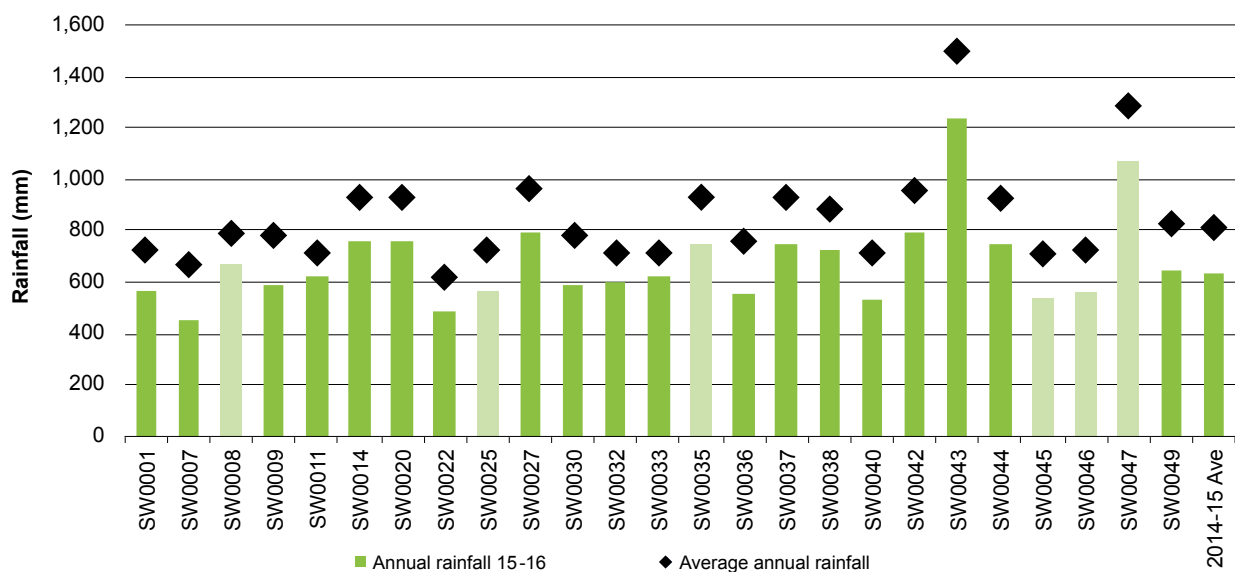
Spring was again drier with lower pasture growth rates leading to long-term fodder reserves being lower than previous years and fed out earlier than usual. This resulted in less feed on hand at the end of the year compared to 2013-14 and 2014-15. The seasonal conditions, in combination with an 11% reduction in milk price, decreased farm returns compared to previous years.

This was the second spring in a row that was drier than expected so many farmers cut lower quantities of fodder, particularly hay. The dry conditions meant that any fodder that had been carried over from 2014-15 was fed out very early in the season. Many farmers then purchased large volumes of hay over summer, autumn and into early winter at elevated prices (\$285/t DM compared to \$246/t DM the previous year) to adequately feed animals.

With another late autumn break, pasture growth was slow for most of May and June, with many farmers increasing their use of nitrogen based fertilisers in these months in an attempt to produce a feed wedge heading into winter.

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

FIGURE 24. 2015-16 ANNUAL RAINFALL AND LONG TERM AVERAGE RAINFALL – SOUTH WEST



Whole farm analysis

Farms in the South West maintained per cow and per hectare production of milk solids sold despite reducing the amount of home grown feed as a percentage of energy consumed.

The physical characteristics of the top 25% of farms (ranked by RoA) generally lie within the middle 50% of the South West dataset for rainfall, usable area and stocking rate. Milk solids either sold per cow or per hectare were in the third quartile for the top 25%.

The physical parameters where the top 25% have slightly higher performance were in labour efficiency; kilograms

of milk solids sold per labour unit (kg MS/FTE) and milk sold per cow and per hectare.

The key whole farm physical parameters for the South West are presented 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 15-16 (mm)	679	567 - 751	694
Water used (irrigation + rainfall) (mm/ha)	689	567 - 757	706
Total usable area (hectares)	320	157 - 451	439
Milking cows per usable hectares	1.2	1.0 - 1.4	1.2
Milk sold (kg MS/cow)	523	492 - 567	564
Milk sold (kg MS/ha)	625	509 - 701	673
Home grown feed as % of ME consumed	52%	44% - 57%	57%
Labour efficiency (milking cows/FTE)	101	78 - 117	120
Labour efficiency (kg MS/FTE)	53,378	40,290 – 63,587	67,555

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. Changes in inventories of stock or feed are also accounted for in gross farm income. Figure 25 provides a breakdown of milk and other income for the participants in the South West.

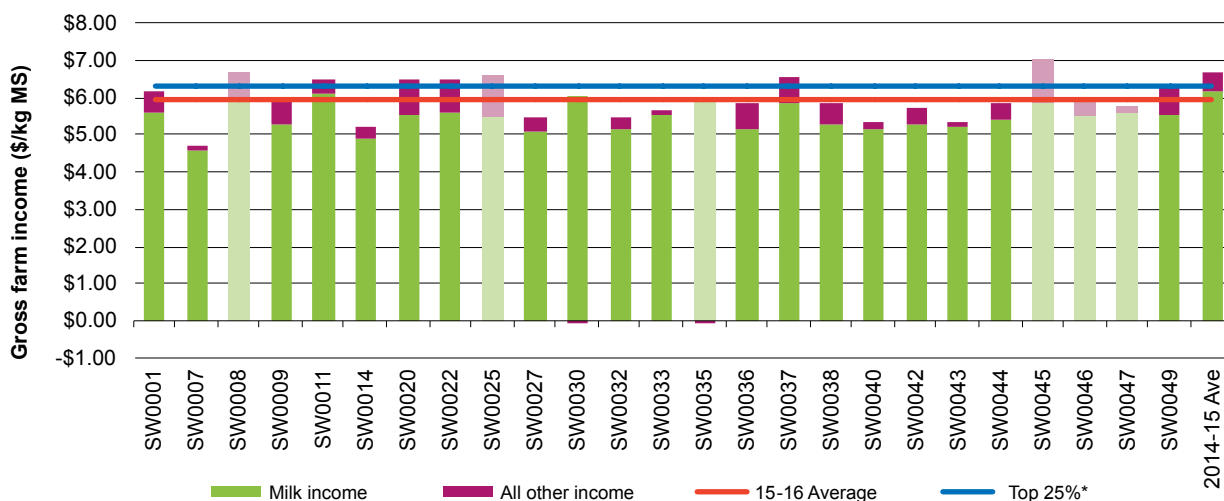
For the second year running, less feed was on hand at the end of June compared to the previous year. There was an average feed inventory change of -\$28,215. The top 25% also had a decrease of almost double the average in feed inventory with a reduction of \$44,485, contributing to the higher cost of production this financial year.

Figure 25 shows that gross farm income in the South West ranged from \$4.69/kg MS to \$7.03/kg MS with an average of \$5.95/kg MS. This was an 11% reduction to the average gross farm income of \$6.70/kg MS in 2014-15.

Average milk price was \$5.47/kg MS, down from \$6.16/kg MS in 2014-15, and ranged from \$4.59/kg MS to \$6.09/kg MS.

The top 25% participants had a milk income of \$5.72/kg MS in 2015-16 compared to the average milk price of \$6.31/kg MS last year which indicates a 9% reduction from 2014-15. The top performing group also had higher other income than the average, contributing to their higher gross farm income in 2015-16 as shown by the blue line in Figure 25.

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



Milk solids sold

The range in milk production per cow and per hectare varies considerably in the South West, as seen in Figure 26.

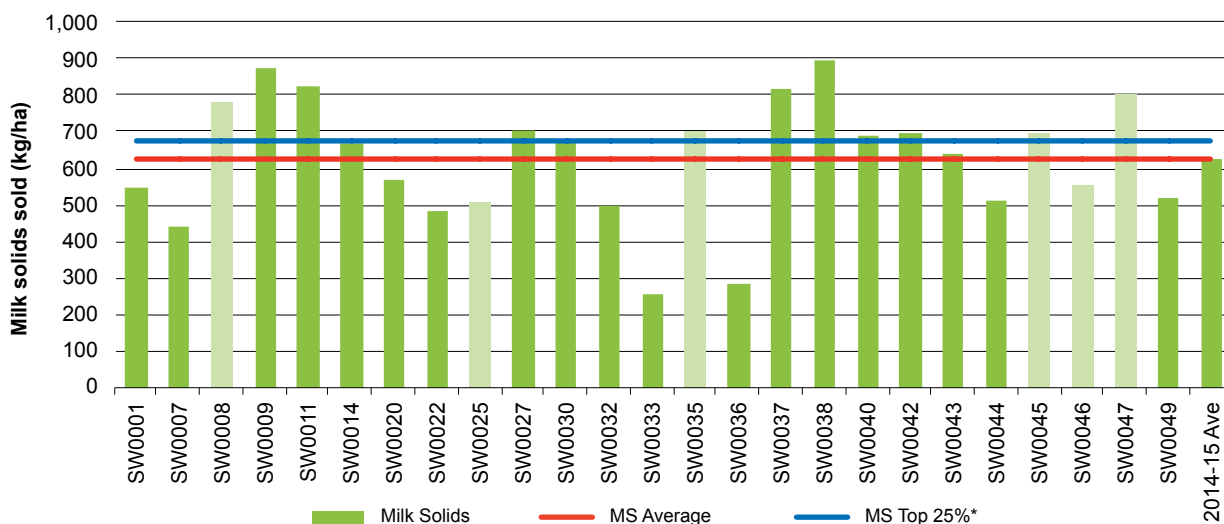
The variation for milk solids produced per hectare was between 255 to 893 kg MS/ha although this spread is similar to the previous year.

The top 25% farms achieved 673 kg MS/ha in the South West compared to the regional average of at 625 kg MS/ha (Figure 26). These results were very similar to last year's production level per hectare for this group.

The average milk solids production per hectare has been maintained this year with a combination of brought in concentrates, hay and silage being used during the dry seasonal conditions.

Milk solids sold per cow ranged from 368 to 604 kg MS/cow representing the wide range of production systems of participants. The average kilograms of milk solids sold per cow also was maintained this year at 523 kg MS/cow compared to 525 kg MS/ha in 2014-15.

FIGURE 26. MILK SOLIDS SOLD PER HECTARE – SOUTH WEST



Variable costs

Figure 27 shows the breakdown of whole farm costs as variable and overhead costs per kg MS. Variable costs are those costs that change directly according to the amount of output, such as herd, shed and feed costs. Variable costs for the South West region ranged from \$2.70/kg MS to \$5.39/kg MS, a notable increase on last year range of \$2.35/kg MS to \$4.40/kg MS. Average variable costs increased to \$3.57/kg MS in comparison with \$3.34/kg MS recorded in 2014-15.

Feed costs were the major variable cost on South West farms, accounting for 53% of total costs (variable plus overhead costs).

Not surprisingly, given the seasonal conditions, the greatest increase in variable costs was in feed, particularly imported feed costs. Fodder purchase costs increased by 81% from \$0.27/kg MS to \$0.49/kg MS. Concentrate costs went from \$1.64/kg MS in 2014-15 to \$1.70/kg MS in 2015-16. The level of concentrate feeding increased while concentrate price went down slightly. Home grown feed costs were \$0.82/kg MS which reduced slightly from \$0.90/kg MS last year.

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

Overhead costs

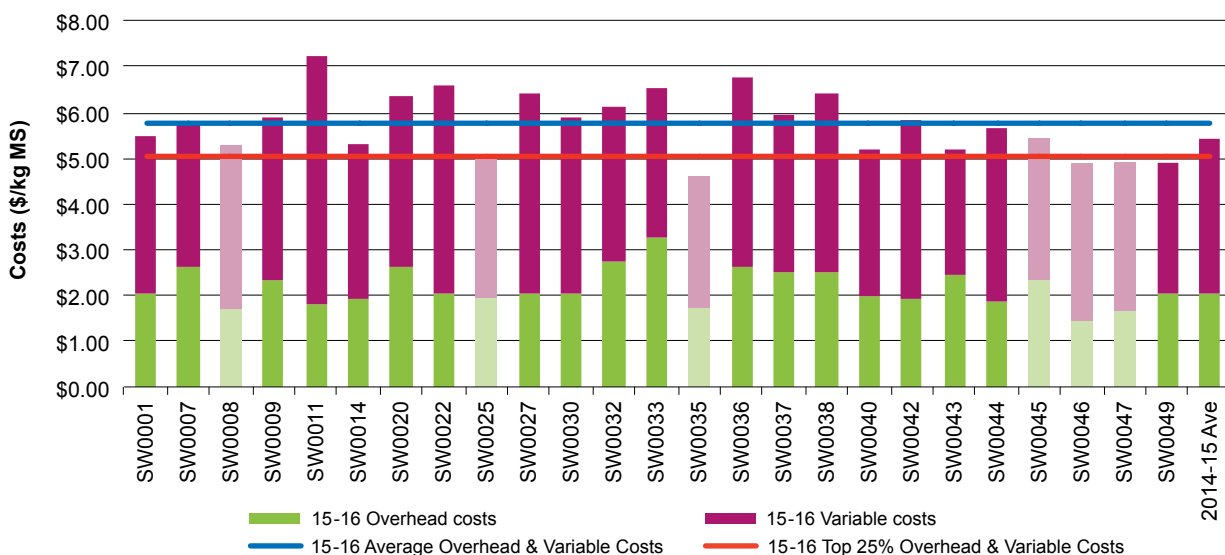
The calculation of overhead costs in the DFMP consists of cash and non-cash costs to the dairy business. Examples of cash overheads include rates, insurance and employed labour, and non-cash overheads includes depreciation and imputed owner/operator and family labour.

Figure 27 further highlights the variation seen in variable costs, with overhead costs ranging from \$1.45 to \$3.28/kg MS between participant farms. The top 25% recorded lower overhead costs at \$1.81/kg MS, which was similar to last year, compared to the regional average of \$2.19/kg MS.

The major overhead cost in 2015-16 to the average South West farm was labour, which included both employed and imputed (owner/operator) labour. Labour costs accounted for almost 23% of total costs; similar to last year but a change in the way imputed labour was valued to account for inflation and current market rates has had some impact on the increase in non-cash overhead costs seen this year.

Imputed labour costs was one area where the top 25% group were able to lower their overhead costs compared to the average. While they have higher total dollar labour costs than the average, their greater labour efficiency as shown in Table 6 enabled them to lower the costs on \$/kg MS basis as shown in Table 7.

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. Table 7 presents cost of production and all the subcategories that are included in this calculation.

A reduction in feed inventory becomes a cost to the business. This indicates that that feed inventory was utilised for the purposes of producing milk and maintaining herd size and body condition. In 2015-16 the feed inventory decline was \$0.09/kg MS.

Table 7 shows the average cost of production was \$6.00/kg MS, an increase from last year, with the Q1 to Q3 range between \$5.53/kg MS and \$6.52/kg MS. The top 25% of farms also had an increased cost of production this year at \$5.11/kg MS. The increase in cost of production was largely due to a reduction in feed inventory, an increase in purchased feed and agistment, and higher imputed labour costs due to the change to the imputed labour rate.

TABLE 7. COST OF PRODUCTION – SOUTH WEST

Farm costs (\$/kg MS)	South West average	Q1 to Q3 range	Top 25% average
VARIABLE COSTS			
Herd Costs	\$0.24	\$0.19 - \$0.29	\$0.24
Shed costs	\$0.19	\$0.16 - \$0.23	\$0.16
Purchased feed and agistment	\$2.30	\$1.88 - \$2.56	\$1.86
Home grown feed cost	\$0.84	\$0.75 - \$1.01	\$0.96
Total variable costs	\$3.57	\$3.20 - \$3.80	\$3.22
OVERHEAD COSTS			
Employed labour	\$0.48	\$0.23 - \$0.61	\$0.49
Repairs and Maintenance	\$0.33	\$0.26 - \$0.42	\$0.32
All other cash overheads	\$0.28	\$0.20 - \$0.30	\$0.28
Total cash overheads	\$1.10	\$0.83 - \$1.23	\$1.09
Cash cost of production (\$/kg MS)	\$4.67	\$4.27 - \$5.02	\$4.31
Depreciation	\$0.26	\$0.16 - \$0.31	\$0.24
Imputed labour	\$0.84	\$0.45 - \$1.10	\$0.48
Total non-cash overheads	\$1.10	\$0.85 - \$1.39	\$0.71
Cost of production without inventory change (\$/kg MS)	\$5.76	\$5.20 - \$6.38	\$5.03
INVENTORY CHANGE			
+/- feed inventory change	\$0.09	-\$0.03 - \$0.14	\$0.15
+/- livestock inventory change - purchases	\$0.15	-\$0.06 - \$0.30	-\$0.07
Cost of production with inventory change (\$/kg MS)	\$6.00	\$5.53 - \$6.52	\$5.11

Earnings before interest and tax

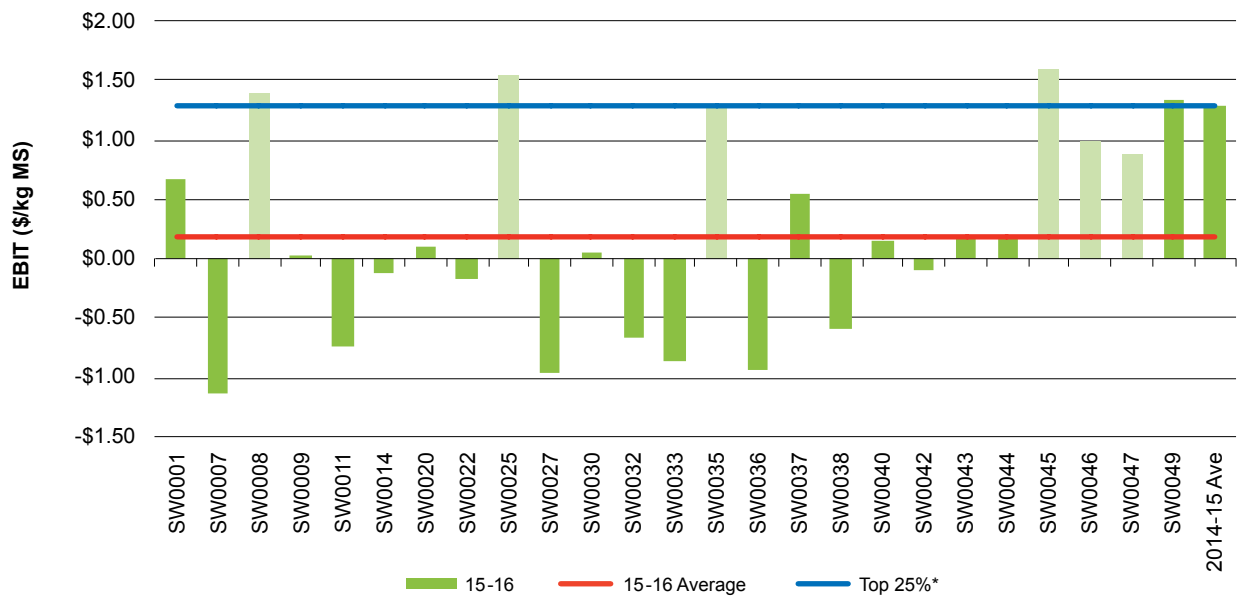
Earnings before interest and tax is the return from all the capital invested in the business and is calculated by subtracting variable and overhead costs, including imputed labour costs and depreciation from gross farm income.

Only 60% of participants achieved positive earnings before interest and tax in 2015-16. On average, EBIT per kg MS decreased from \$1.28/kg MS in 2014-15 to \$0.18/kg MS, an 86% reduction, in 2015-16 (Figure 28).

The lower EBIT was a result of a decrease in gross farm income due to the lower milk price, feed inventory decline and the higher purchased feed and agistment costs due to the drier seasonal conditions.

The top 25% performers were able to achieve an average EBIT of \$1.28/kg MS; however, this was down from \$2.01/kg MS achieved by the top 25% in 2014-15.

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 EBIT minus interest and lease costs expressed as a percentage of owner’s equity.

In 2015-16 there were 15 out of the 25 participants (60%) in the South West that achieved a positive RoA. Last year all farms in the region recorded a positive RoA.

Figures 29 and 30 were calculated excluding capital appreciation. For RoE including capital appreciation, as well as individual farm results, refer to Appendix Table C1.

The RoA for the South West region ranged from -1.6% to 6.3%, with a decrease in the average from 5.2% last year to 0.6% in 2015-16. The top 25% achieved an average of 4.8% RoA also dropping from 6.5% in 2014-15. The farms in this group demonstrated the resilience of some dairy farms in the face of challenging conditions, with four of the six farms in this group also managing profits within the top 25% group last year (SW0035, SW0045, SW0046

and SW0047). Farms SW0008 and SW0025 returned to the top performing group after being displaced for the last two years. These farmers have identified the key factors that contribute most to profit on their individual farm and implemented strategies early to ease the pressure of their operating conditions.

This year’s RoE had an average value of -2.8% recorded for the South West. This was a decrease from an average of 6.4% last year, bringing with it similarities to the regions RoE performance in 2011-12 and 2012-13 where average negative returns were also recorded.

Less than one quarter of farms (6 out of 25) reported a positive RoE in 2015-16, with individual farm variation shown in Figure 30.

The range in RoE was between -10.4% to 7.1%. The top 25% of farms managed a positive RoE of 3.6%, which was still lower than previous years.

Achieving a negative RoE equates to three quarters of South West farms declining their net worth in 2015-16.

FIGURE 29. RETURN ON ASSETS – SOUTH WEST

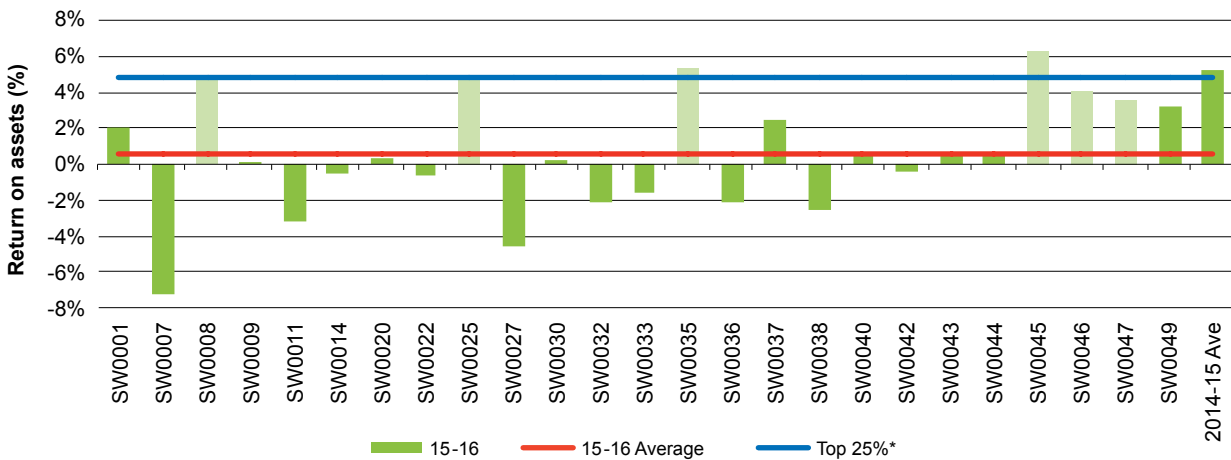
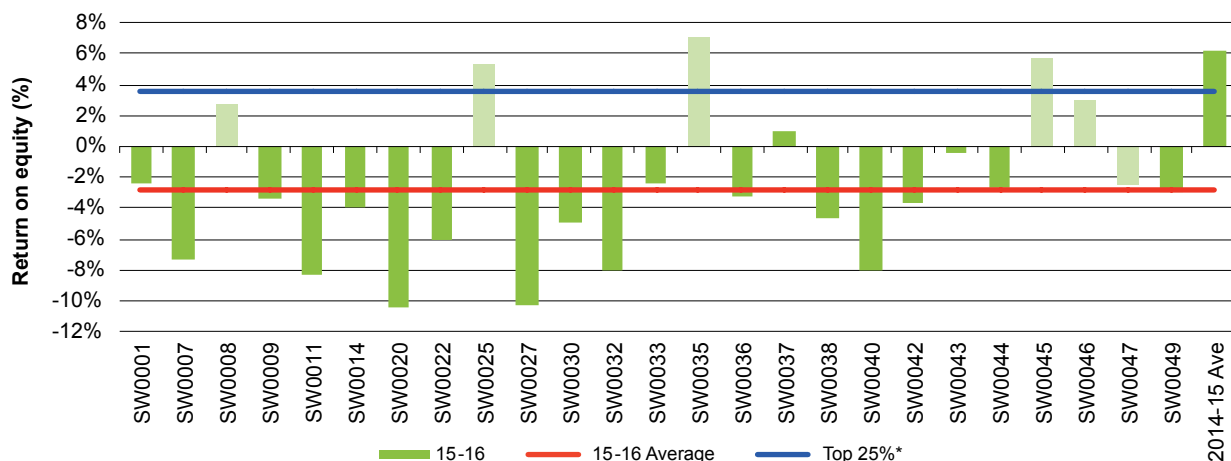


FIGURE 30. RETURN ON EQUITY – SOUTH WEST



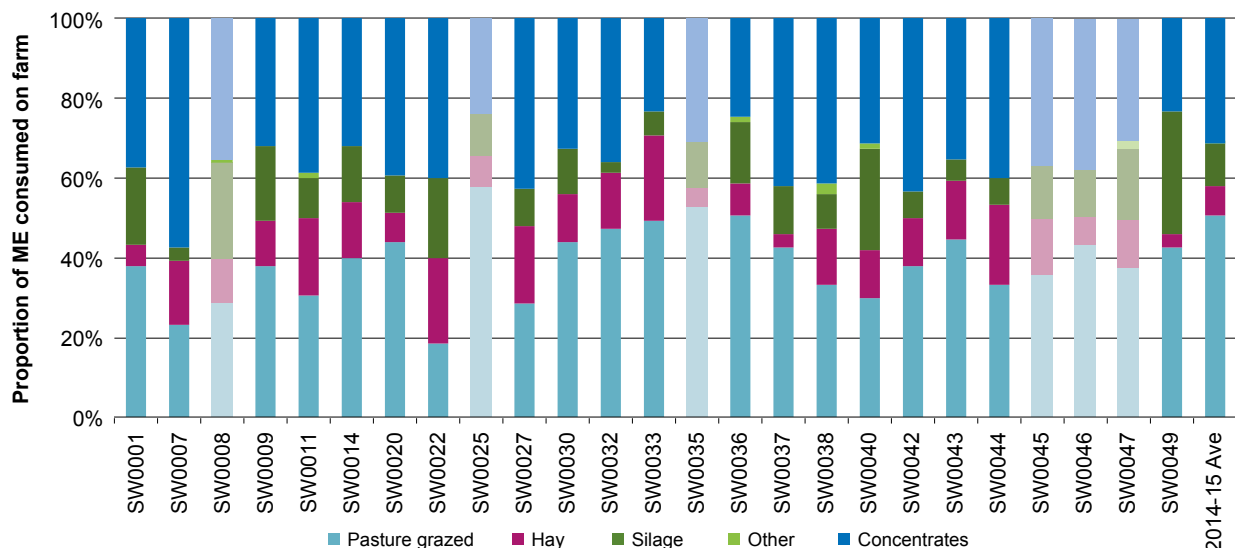
Feed consumption and fertiliser

South West farms sourced only 40% of their metabolisable energy from directly grazed pasture this year, compared with 51% last year. This confirms the challenging climatic conditions and the greater reliance on purchased feeds in 2015-16.

Figure 31 shows the relative contribution of each feed type to the ME consumption on farm. The contribution of grazed pasture as a proportion of ME consumed on farm decreased from an average of 51% in 2014-15 to 40% in 2015-16. Concentrates were the most used supplement contributing to 35% of total ME consumed. Concentrate price remained similar but feeding levels went up slightly.

The continued challenging seasonal conditions were met with a greater reliance on both home grown and brought in fodder. The contribution of both silage and hay increased in 2015-16 compared to last year. On average, silage contributed 18% of total ME consumed, up from 10% last year. Hay use also increased to 15% of total ME consumed from 8% in 2014-15.

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



Home grown feed consumption is shown in Figure 32. The average total pasture harvested (grazed and conserved) from the milking area was 5.2 t DM/ha, a reduction of 0.5 t DM/ha harvested in 2014-15, largely due to the reduction in directly grazed feed. There was however, an increase in home grown conserved fodder harvested.

The amount of pasture consumed as grazed feed on the milking area this year ranged from 0.9 t DM/ha to 6.4 t DM/ha. The average pasture consumed as grazed feed of 3.7 t DM/ha was lower than 4.5 t DM/ha grazed in 2014-15.

There was a 25% increase in conserved feed from 1.2 t DM/ha in 2014-15 to an average of 1.5 t DM/ha in 2015-16, returning to levels seen in 2013-14. Farm businesses took the opportunity to make fodder when they could, given

the forecast for a poor growing season and reduced pasture availability.

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

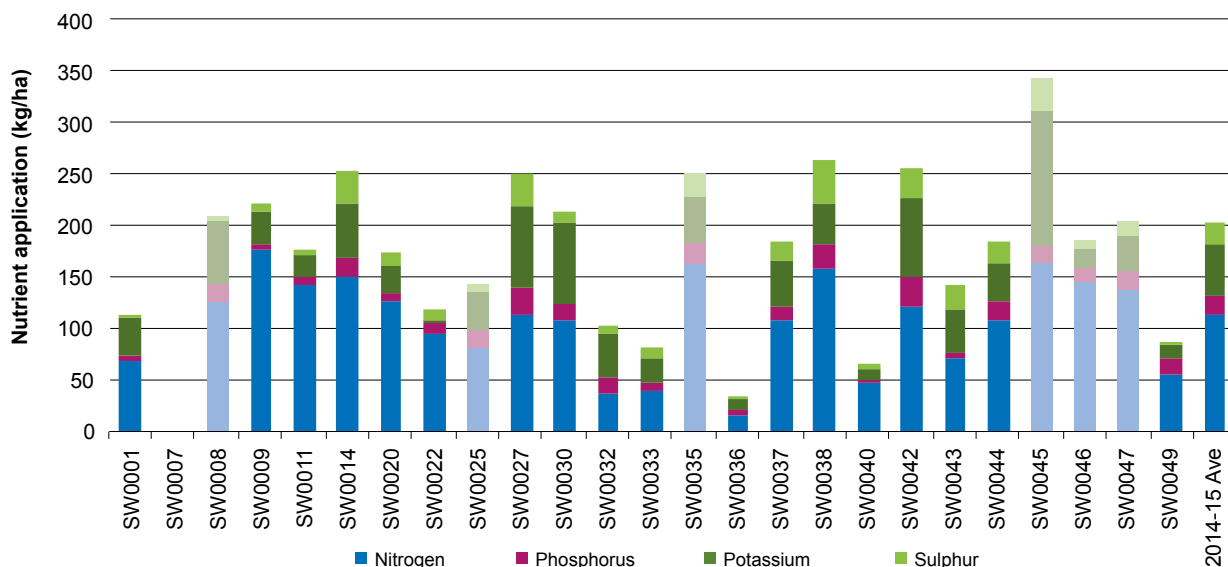
The proportion of nutrients in fertiliser applied per usable hectare on farm in 2015-16 is shown in Figure 33. Total average nutrients applied for the year remained unchanged in 2015-16 at 202 kg/ha.

Nitrogen fertiliser application reduced slightly this year to 102 kg/ha compared to 113 kg/ha last year. There was a

reduction in phosphorous use this year with only 13 kg/ha being applied compared to 19 kg/ha in 2014-15.

Potassium applications also declined from 48 kg/ha in 2014-15 to 39 kg/ha, in 2015-16. The individual values relating to Figure 33 can be found in Appendix Table C2.

FIGURE 33. NUTRIENT APPLICATION PER HECTARE – SOUTH WEST



Part Four: **Gippsland**



Gippsland

Farms GI0004 to GI0017 participated in the project for their tenth consecutive year. Farms GI0054, GI0055 and GI0056 participated in the study for their first time this year. Please refer to page 3 for notes on the presentation of this data.

2015-16 Seasonal conditions

Due to the geographic spread of farms in Gippsland, the seasonal conditions were variable, but generally poorer than experienced in the 2014-15 year. Most of Gippsland had a mild winter, followed by a spring with well below average rainfall that resulted in poor pasture growth, leading to reduced silage and hay being made. The overall lack of pasture growth combined with the reduced fodder conservation led to more concentrates and fodder being fed and purchased than in other years. After a hot dry spring and summer period, autumn was dominated by warm conditions with long periods between good rainfall events.

There were long periods of dry conditions in Gippsland through much of spring and summer followed by moderate amounts of rain but, in the main, this failed to generate any consistent supply of pasture until late in 2015-16. As a result, pasture consumption levels were less than what would normally occur. Figure 34 presents the annual rainfall received on each farm compared to the long term average.

East Gippsland experienced a very wet winter to mid-spring period, which affected pasture growth due to periods of waterlogging. Conditions then dried out and the summer was milder and wetter resulting in good pasture growth. A late autumn break occurred in mid-May, which was followed with above average rainfall until the end of the financial year.

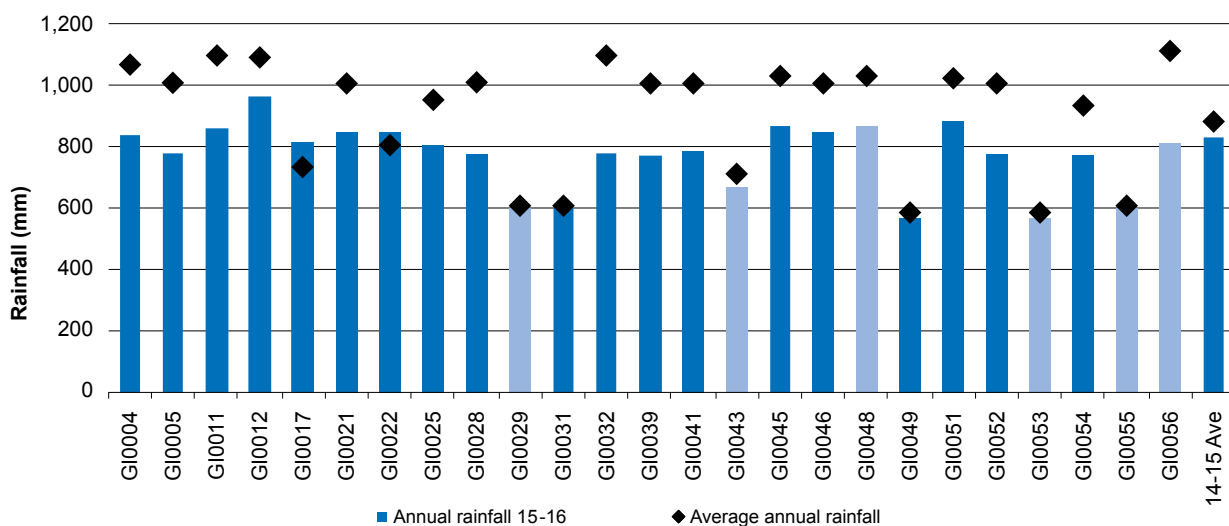
Unlike East Gippsland, most of South and West Gippsland had reduced pasture growth in spring with low rainfall and low soil moisture leading into summer. The coastal

areas of South Gippsland were the most affected by the reduced rainfall with the lowest rainfall on record experienced in October 2015. Lower levels of fodder were conserved putting more reliance on brought in feed over summer and early autumn. A late autumn break arrived in mid-May, similar to East Gippsland.

The Macalister Irrigation District (MID) initially received 100% allocation of high reliability water shares. Very little or no spill water was available from Glenmaggie Weir with the drier summer to autumn period resulting in the purchase of some temporary water. The milder summer temperatures combined with rainfall from sporadic storms reduced the early demand for irrigation water. The late autumn break combined with the warm start to autumn increased demand for temporary water. Overall, the MID experienced good pasture growing conditions with the majority having enough water to generate good pasture growth for most of the year.

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

FIGURE 34. 2015-16 ANNUAL RAINFALL AND LONG TERM AVERAGE RAINFALL – GIPPSLAND



Whole farm analysis

The top 25% of participants reduced per cow production, per hectare production of milk solids sold, reduced their usable area and labour efficiency year on year. The gap between the top 25% and the average was less than in previous years.

The physical characteristics of the top 25% of farms (ranked by RoA) generally lie within the middle 50% of the Gippsland dataset, as shown by the Q1-Q3 range in Table 8. The physical characteristics of the top 25% performers only partly explain their ability to be more profitable. Caution must be taken when looking at these physical parameters in isolation.

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. The top 25% farms reduced the production per cow to 507 kg MS/cow compared to last year (520 kg MS/cow) and per hectare (1,041 kg MS/ha compared to 1,092 kg MS/ha) last year. The Gippsland average increased from 479 kg MS/cow last year to 482 kg MS/cow but production per hectare reduced from 890 kg MS/ha last year to 836 kg MS/ha this year (Table 8).

The usable area of the top 25% performers reduced significantly this year from 221 ha in 2014-15 to 178 ha in 2015-16, in comparison to the average which rose from 189 ha last year to 201 ha this year, predominately the result of a change to participant farms in the region.

A higher proportion of home grown feed as a percentage of the ME consumed was used by the top 25% participants (65%) compared to 59% for the average.

The top 25% performers had higher labour efficiency in terms of milk solids per full time equivalent (FTE) with 60,385 kg MS/FTE which was considerably lower than the 71,586 kg MS/FTE recorded in 2014-15 but still higher than the average at 55,382 kg MS/FTE.

TABLE 8. FARM PHYSICAL DATA – GIPPSLAND

Farm physical parameters	Gippsland average	Q1 to Q3 range	Top 25% average
Annual rainfall 15-16 (mm)	773	774 - 848	687
Water used (irrigation + rainfall) (mm/ha)	894	787 - 942	1,003
Total usable area (hectares)	201	119 - 266	178
Milking cows per usable hectare	1.7	1.2 - 1.9	2.1
Milk sold (kg MS /cow)	482	451 - 536	507
Milk sold (kg MS /ha)	836	517 - 932	1,041
Home grown feed as % of ME consumed	59%	54% – 65%	65%
Labour efficiency (milking cows / FTE)	114	101 - 134	120
Labour efficiency (kg MS / FTE)	55,382	49,378 – 64,435	60,385

Gross farm income

Gross farm income includes all farm income relating to the dairy farm business, whether from milk sales, a change in stock or feed inventories, cash income from livestock trading or any other dairy related income.

Gross farm income in Gippsland reduced by 11% this year compared to 2014-15. The majority of this reduction was attributable to the lower milk price received. Figure 35 shows the variation in gross farm income per kilogram of milk solids from \$5.11/kg MS to \$6.47/kg MS. Average gross farm income was \$5.79/kg MS whilst the top 25% of farms averaged \$5.92/kg MS gross farm income, also an 11% drop from last year.

After an 11% decrease in milk price experienced in 2014-15, this year provided another challenge with a further 10% reduction in milk price received on average for 2015-16. The average milk price received was \$5.28/kg MS (for both the average and the top 25%) compared to \$5.88/kg MS in 2014-15. The range for milk price in the region was \$4.89/kg MS to \$5.67/kg MS.

The majority of other income was received from livestock sales. Farmers identified the season as challenging and chose to sell stock towards the start of the season while conditions were still dry.

FIGURE 35. GROSS FARM INCOME PER KILOGRAM OF MILK SOLIDS – GIPPSLAND

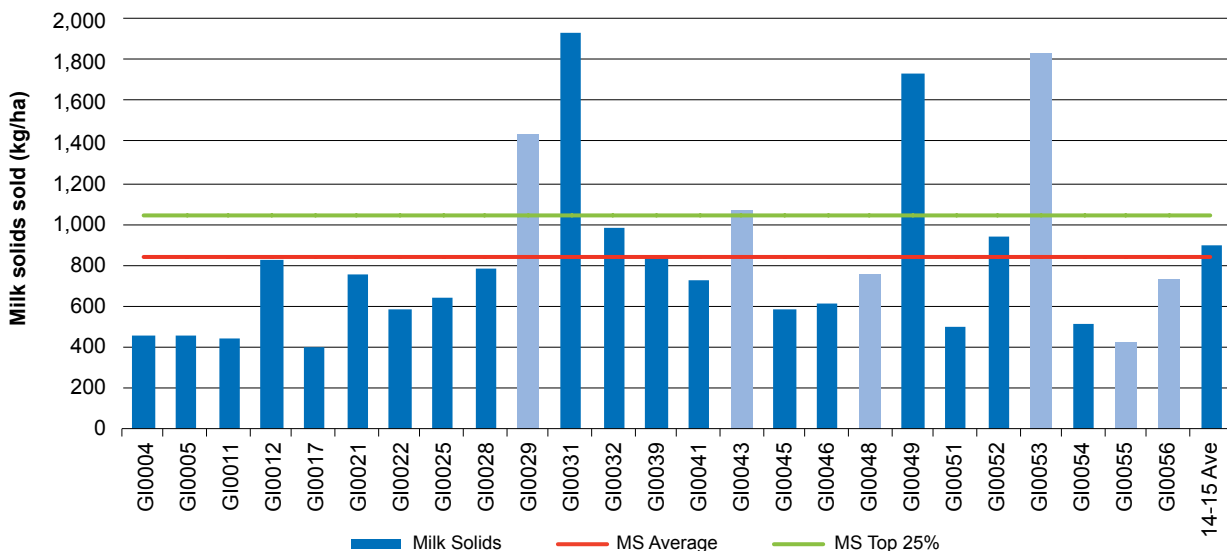


Milk solids sold

There was a 6% reduction in milk solids sold in 2015-16 to 836 kg MS/ha compared to last year (890 kg MS/ha) (Figure 36).

The top 25% dropped from their higher production in 2014-15 by selling 1,041kg MS/ha this year, down from 1,092 kg MS/ha.

FIGURE 36. MILK SOLIDS SOLD PER HECTARE – GIPPSLAND



Variable costs

The separation of variable and overhead costs per kilogram of milk solids is shown in Figure 37. Variable costs are those costs that change directly according to the amount of output, such as herd, shed and feed costs.

The range in variable costs for Gippsland was \$2.45/kg MS to \$4.51/kg MS with an average of \$3.24/kg MS. This was a slight increase from the 2014-15 average of \$3.15/kg MS. In 2015-16, the top 25% had lower variable costs of \$2.80/kg MS compared with 2014-15 (\$3.00/kg MS).

The largest variable cost in 2015-16 was again attributable to feed. Feed costs were 50% of total costs (variable plus overhead costs) this year, consistent with the previous two years. Concentrate costs were 6% higher than the 2014-15, at \$1.53/kg MS. Fodder purchases rose to \$0.29/kg MS from \$0.18/kg MS in 2014-15, which is not surprising given the seasonal conditions and reduced fodder production this 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 37 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).

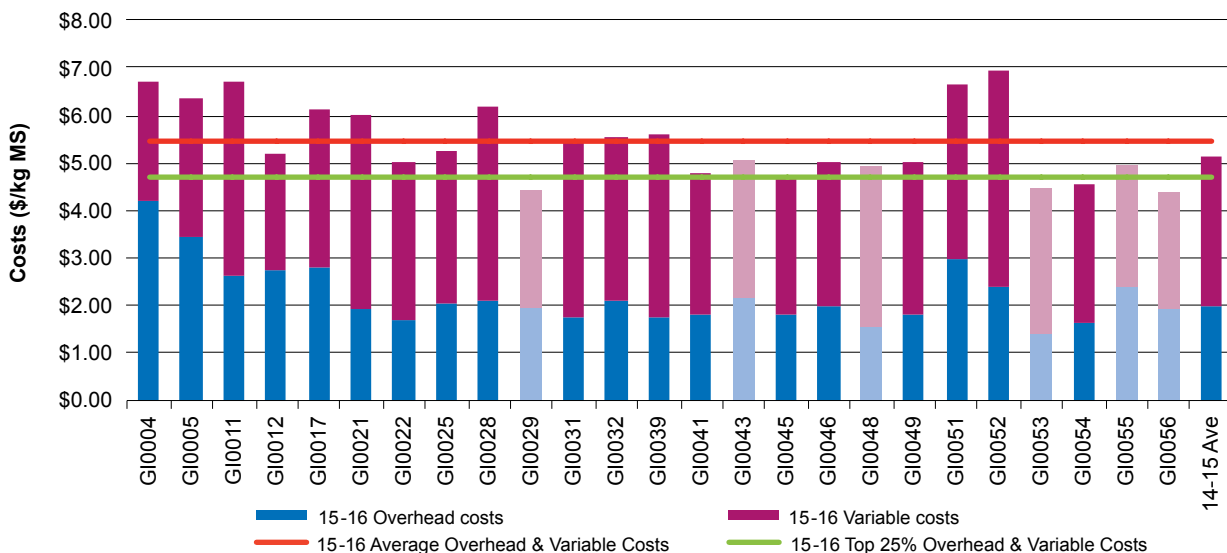
Gippsland still appears to be able to maintain lower overhead costs and this also appears to be a key to performing in the top 25%. Total expenditure on overhead costs in Gippsland during 2015-16 varied between \$1.39/kg MS and \$4.20/kg MS, with an average of \$2.22/kg MS, a 10% increase on last year.

The top 25% have lower overhead costs at \$1.90/kg MS but this was still a 20% increase from last year. 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.

Unlike last year, the difference between the average and top 25% were cash overheads (rather than non-cash), mainly in the area of employed labour, with a difference of \$0.20/kg MS.

There was only a \$0.03/kg MS difference between the average and top 25% for imputed labour costs which were \$0.88/kg MS for the average participant farm in Gippsland compared to \$0.85/kg MS for the top 25%. The top group had a greater proportion of imputed labour at 1.8 FTE compared to 1.5 FTE for the average. The depreciation cost of the average farm was \$0.25/kg MS and \$0.24/kg MS for the top 25% of producers.

FIGURE 37. 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 was \$5.55/kg MS, which was an 11% increase from last year. The top 25% of farms had a cost of production of \$5.46/kg MS, which was a 24% increase from 2014-15.

The feed inventory decreased on average this year by \$0.11/kg MS and by \$0.02/kg MS for the top 25% performers indicating less fodder on hand at the end of the year.

Table 9 has imputed owner-operator and family labour and depreciation costs separated out allowing owner-operators to distinguish their own cost of labour and where cash flow occurs in the business.

TABLE 9. COST OF PRODUCTION – GIPPSLAND

Farm costs (\$/kg MS)	Gippsland average	Q1 to Q3 range	Top 25% average
VARIABLE COSTS			
Herd Costs	\$0.30	\$0.23 - \$0.35	\$0.26
Shed costs	\$0.20	\$0.16 - \$0.23	\$0.17
Purchased feed and agistment	\$1.91	\$1.51 - \$2.20	\$1.56
Home grown feed cost	\$0.83	\$0.68 - \$0.97	\$0.81
Total variable costs	\$3.24	\$2.88 - \$3.66	\$2.80
OVERHEAD COSTS			
Employed labour	\$0.47	\$0.20 - \$0.58	\$0.27
Repairs and Maintenance	\$0.33	\$0.26 - \$0.40	\$0.33
All other cash overheads	\$0.29	\$0.19 - \$0.32	\$0.21
Total cash overheads	\$1.09	\$0.85 - \$1.22	\$0.81
Cash cost of production (\$/kg MS)	\$4.33	\$3.79 - \$4.94	\$3.61
Depreciation	\$0.25	\$0.12 - \$0.30	\$0.24
Imputed labour	\$0.88	\$0.60 - \$1.22	\$0.85
Total non-cash overheads	\$1.13	\$0.71 - \$1.45	\$1.09
Cost of production without inventory change (\$/kg MS)	\$5.45	\$4.92 - \$6.16	\$4.70
INVENTORY CHANGE			
+/- feed inventory change	\$0.11	-\$0.01 - \$0.12	\$0.02
+/- livestock inventory change - purchases	-\$0.01	-\$0.13 - \$0.15	-\$0.13
Cost of production with inventory change (\$/kg MS)	\$5.55	\$4.84 - \$6.11	\$4.59

Earnings before interest and tax

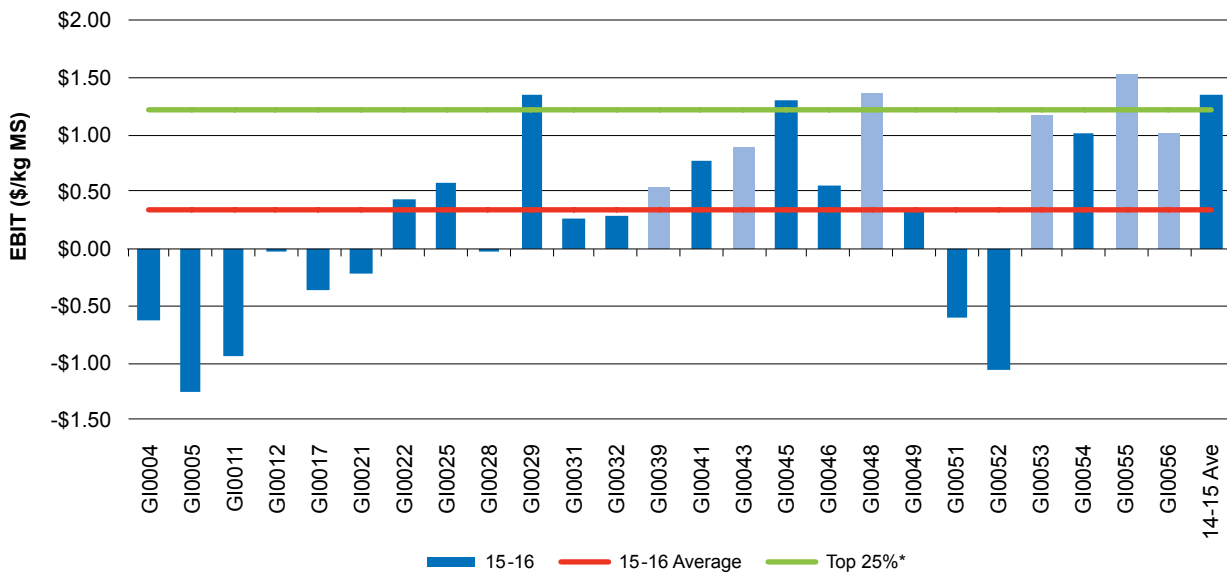
Earnings before interest and tax is equal to gross farm income less variable and overhead costs.

Unlike the previous two years, Gippsland had 9 of its 25 participants (36%) record a negative EBIT (Figure 38). On average, EBIT was \$0.33/kg MS in 2015-16 compared to \$1.36/kg MS in 2014-15 and \$2.03/kg MS in 2013-14. The top 25% recorded an EBIT of \$1.22/kg MS, which was a drop of 43% from \$2.15/kg MS in 2014-15.

The lower performance of Gippsland farms is mostly attributable to the lower milk price and increased costs due to difficult seasonal conditions.

The main cost increases to businesses in 2015-16 were more concentrates fed, to make up for reduced pasture availability, and the increased fodder purchases this season due to reduced fodder conservation.

FIGURE 38.
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' RoA 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 RoA.

After a difficult season, 64% of Gippsland farms returned a positive RoA. The RoA values ranged from -3.4% to 6.2% during 2015-16 (Figure 39). The average of 1.3% RoA (shown by the red line) for Gippsland was lower than last year's result of 4.7% (shown by the last blue bar). The top 25% had an RoA of 4.2% year (shown by the green line) which reduced considerably from 8.0% last year.

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 RoA becomes a lesser RoE when the rate of interest on loans or lease on leased capital is greater than the return from the additional assets managed. A negative RoE will result when total interest and lease payments exceed the EBIT. When the percentage of RoE increases compared to RoA, it is the result of a higher return from the additional assets than the interest or lease rate.

Sixty percent (15 out of 25) of the Gippsland farms returned a negative RoE in 2015-16, with an average of -2.3% compared to last year which was 4.7% (Figure 40). The top 25% group achieved 12.7% RoE in 2014-15 whereas this year the top 25% recorded an average of 4.1%.

Interest and lease costs remained similar this year at \$0.64/kg MS compared to \$0.68/kg MS 2014-15. The top 25% group averaged \$0.51/kg MS for interest and lease costs, remaining relatively unchanged from last year. Average capital values can be seen in Appendix D8.

FIGURE 39. RETURN ON ASSETS – GIPPSLAND

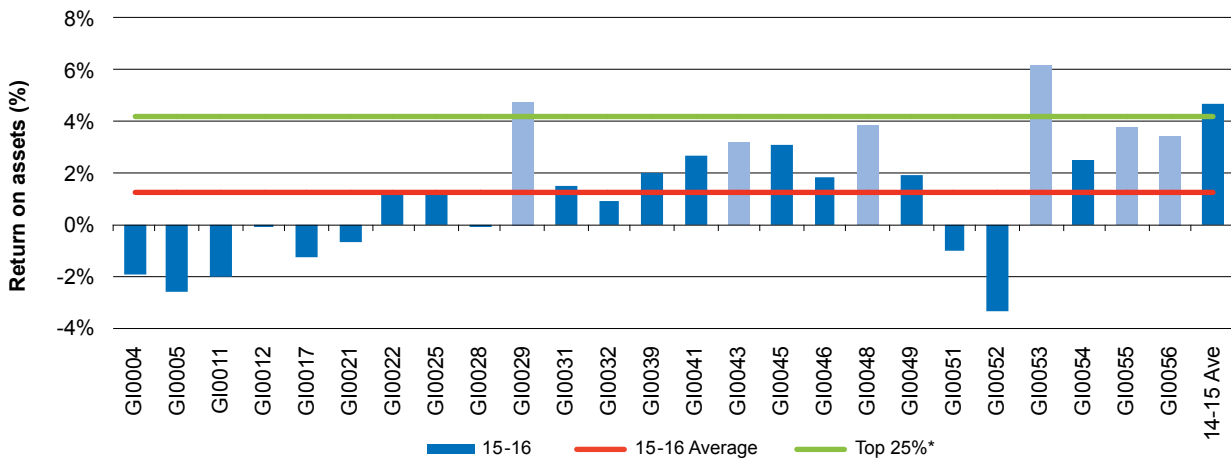
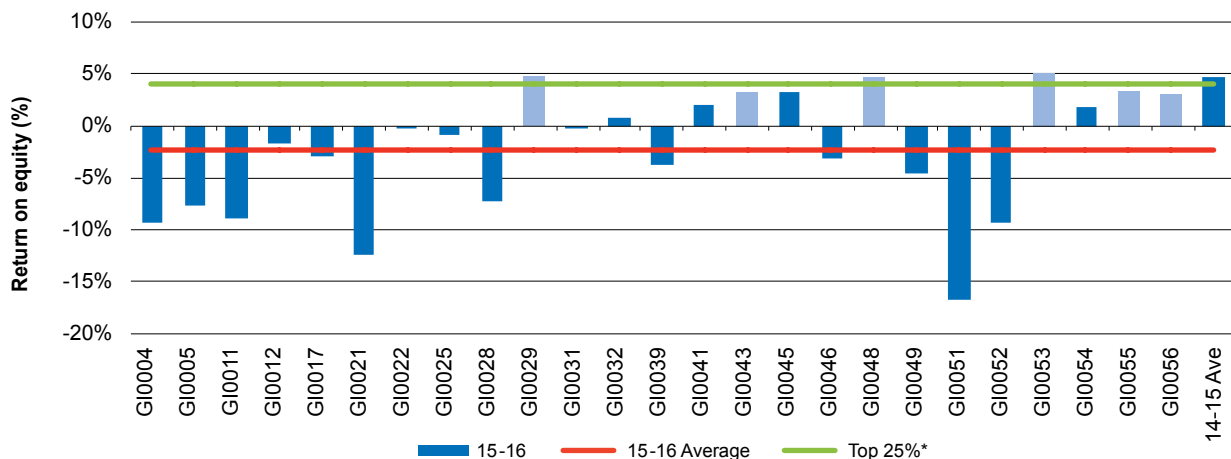


FIGURE 40. RETURN ON EQUITY – GIPPSLAND



Feed consumption and fertiliser

Gippsland dairy farming systems were predominantly pasture based, with 16 farms sourcing at least half their energy requirement as grazed pasture despite the difficult season.

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.

In Gippsland, directly grazed pasture reduced from last year with farms providing an average of 53% of ME consumed. Total home grown feed (pasture and conserved feed) as a percentage of ME consumed also went down to 59% compared to 66% last year, providing insight to the tough seasonal conditions experienced this year.

As seen in Figure 41, concentrates provided the next greatest ME source averaging 31% of ME consumed, slightly more than last year, predominantly to offset the decline in seasonal availability of pasture. The intake of concentrates ranged from 20% to 45% of ME, which was an increase on last year.

'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 41. SOURCES OF WHOLE FARM METABOLISABLE ENERGY – GIPPSLAND

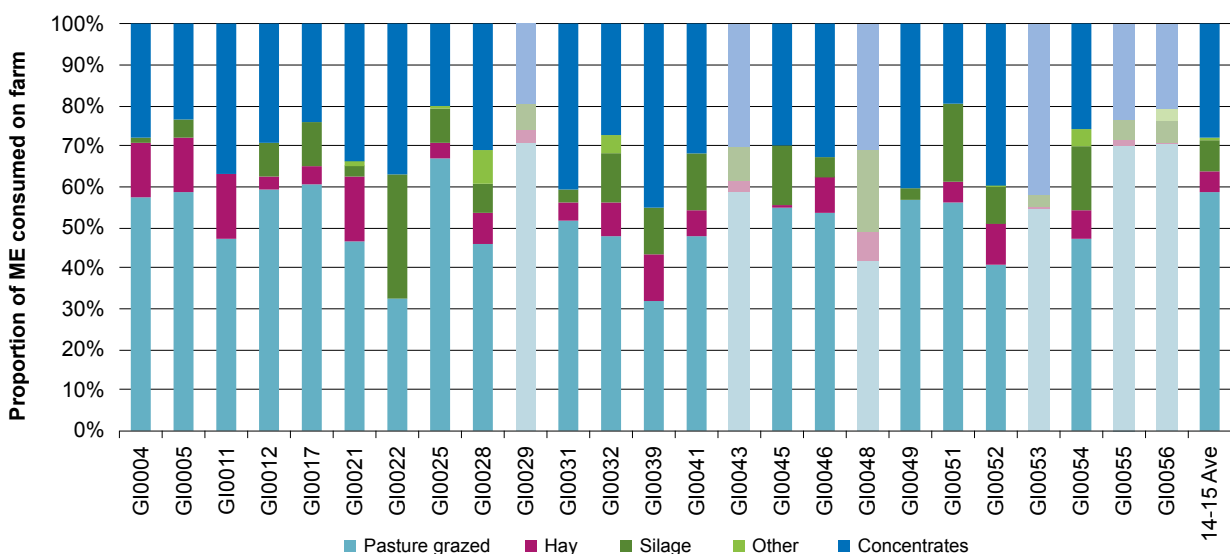


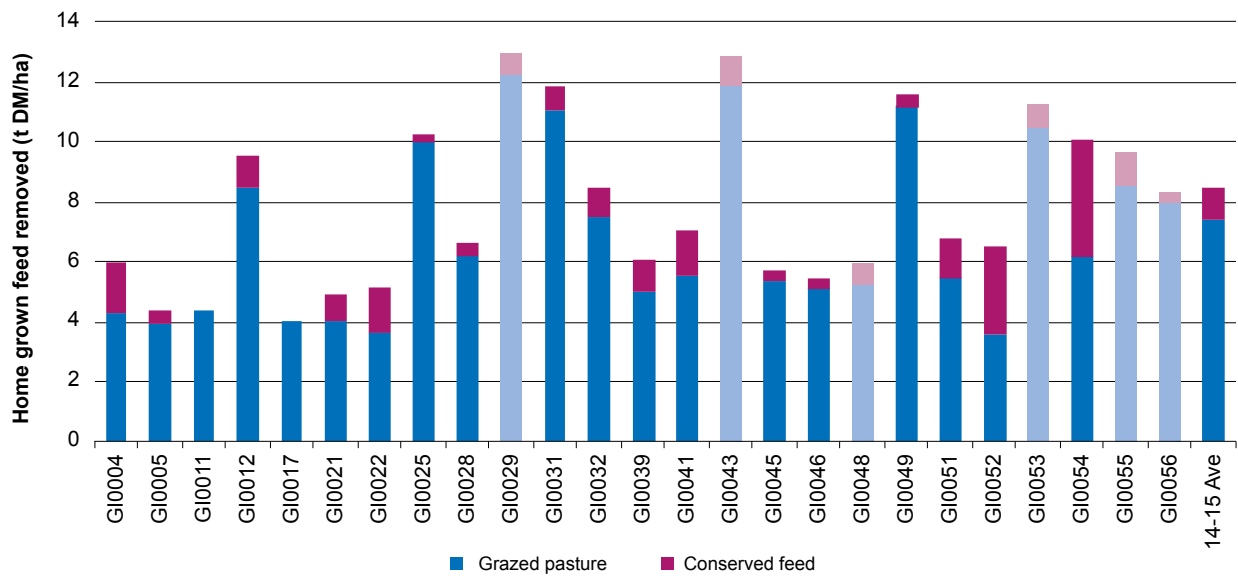
Figure 42 shows the estimated tonnes of dry matter of home grown feed consumed per milking hectare; comprised of grazed pasture (bottom blue column) and conserved fodder (top red column). Total home grown feed consumed ranged from 4.0 t DM/ha up to 13.0 t DM/ha. The average home grown feed consumed per milking hectare was 7.9 t DM/ha compared to the average last year of 8.5 t DM/ha. The top 25% of farms averaged 10.2 t DM/ha, an increase from last year's 9.8 t DM/ha.

Pasture consumption on the home milking area has continued to decline since 2013-14, mainly due to seasonal conditions. The quantity of directly grazed pasture consumed was on average 6.9 t DM/ha compared to 7.4 t DM/ha in 2014-15. The quantity of conserved feed was similar at 1.0 t DM/ha, comparable to

the previous two years. Two farms did not conserve any feed on the milking area 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 42. ESTIMATED TONNES OF HOME GROWN FEED PRODUCED PER MILKING HECTARE – GIPPSLAND



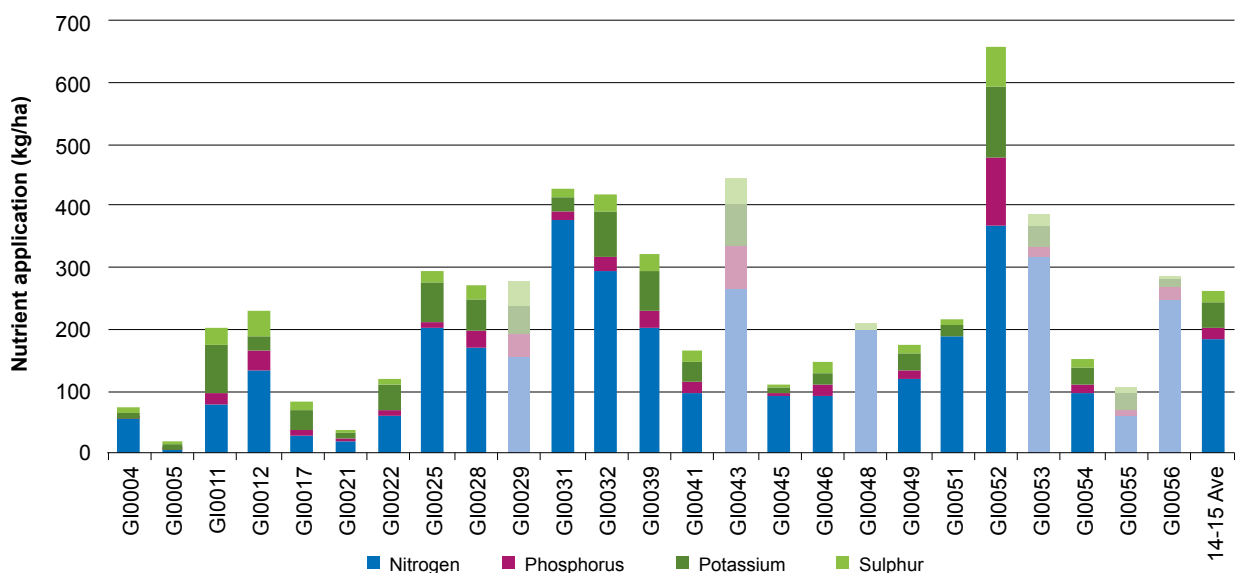
Fertiliser application

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 43). Nitrogen was the main nutrient applied varying from 7 kg/ha up to 381 kg/ha on the usable area, with the average use at 158 kg/ha, returning to levels applied in 2013-14. Slightly lower amounts of

phosphorus (21 kg/ha) and potassium (36 kg/ha) were applied per hectare compared to last year. The top 25% of businesses applied more nitrogen (208 kg/ha), slightly more phosphorus (26 kg/ha) lower potassium (32 kg/ha) and similar amounts of sulphur to the average.

The values for Figures 42 and 43 can be found in Appendix Table D2.

FIGURE 43. NUTRIENT APPLICATION PER HECTARE (USABLE AREA) – GIPPSLAND



Part Five:
**Business
confidence
survey**



Expectations and issues

Responses to this business confidence survey were made in July 2016 with regard to the 2016-17 financial year and the next five years to 2020-21.

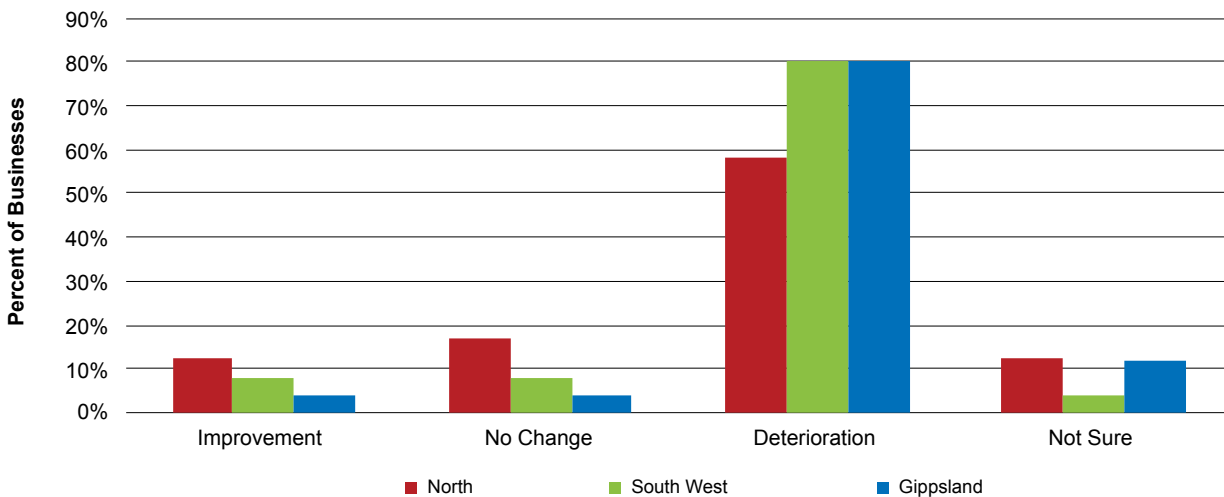
Expectations for business returns

Following a challenging 2015-16 year, expectations for the coming season were less optimistic with three-in-four farmers predicting a deterioration in farm business returns. Less than 10 per cent predicted their business returns would either improve or not change, and a similar proportion of farmers were not sure what would happen to their business returns in 2016-17. This is notably different to the mixed expectations recorded in 2014-15.

Responses to the survey, as seen in Figure 44 through to Figure 49, 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 negative there were slight regional differences.

Participants in the North were more optimistic than farmers in the other regions with 13% expecting an improvement to their farm business returns and 17% expecting no change to their farm business returns in 2016-17 (Figure 44). Eighty percent of farmers in both the South West and Gippsland expected a deterioration in their business returns in the coming year.

FIGURE 44. EXPECTED CHANGE TO FARM BUSINESS RETURNS IN 2016-17

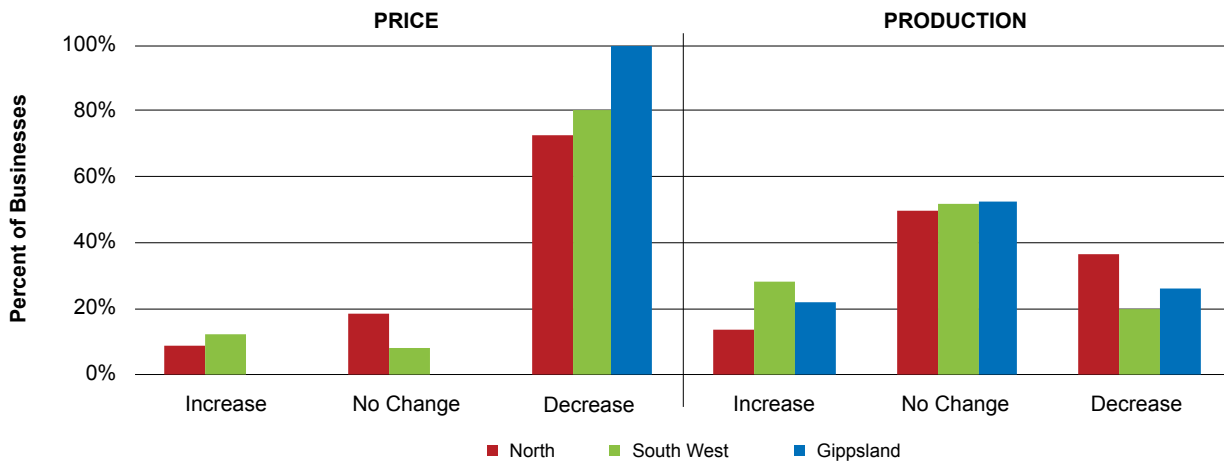


Price and production expectations - milk

The majority of the participant farmers across the state were expecting their milk price to decrease for the 2016-17 year (Figure 45). Farmers in Gippsland received the lowest milk price in 2015-16 and all participants expected their milk price to further decrease in the coming year.

Half of the participants across the state indicated that they would maintain their milk production in 2016-17. More farmers in the South West than in other regions expected their production to increase while more farmers in the North expected their production to decrease.

FIGURE 45. PRODUCER EXPECTATIONS OF PRICES AND PRODUCTION OF MILK IN 2016-17



Price and production expectations - fodder

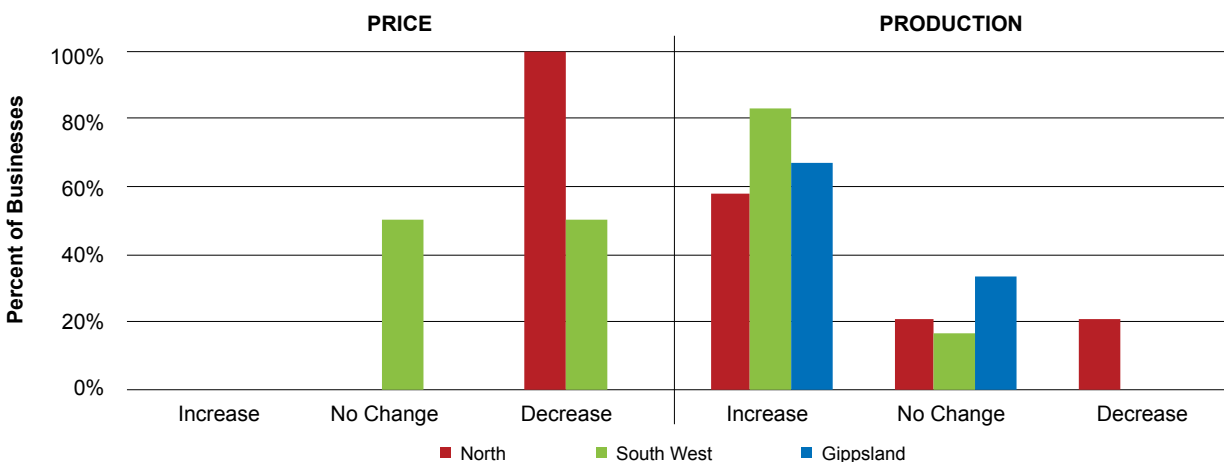
Not all farmers provided answers to questions regarding expectations of fodder sales price and production. Of the nine responses across the state, eight farmers expected the price of fodder produced for sale to decrease in 2016-17 (Figure 46). None of the participants predicted an increase in fodder prices.

About two-thirds of the 49 respondents indicated that they expected fodder production to increase in the coming year and a quarter expected no change to how much feed

would be conserved on farm. Only a few farmers, all from the North, reported that fodder production was expected to decrease on their farms in 2016-17.

While 12% of participants were concerned about seasonal variability in the coming year, there was a forecast for high probability of above average spring and summer rainfall in the coming year. This influenced the optimism of participants to achieve higher fodder production and conversely receive lower fodder prices.

FIGURE 46. PRODUCER EXPECTATIONS OF PRICES AND PRODUCTION OF FODDER IN 2016-17



Cost expectations

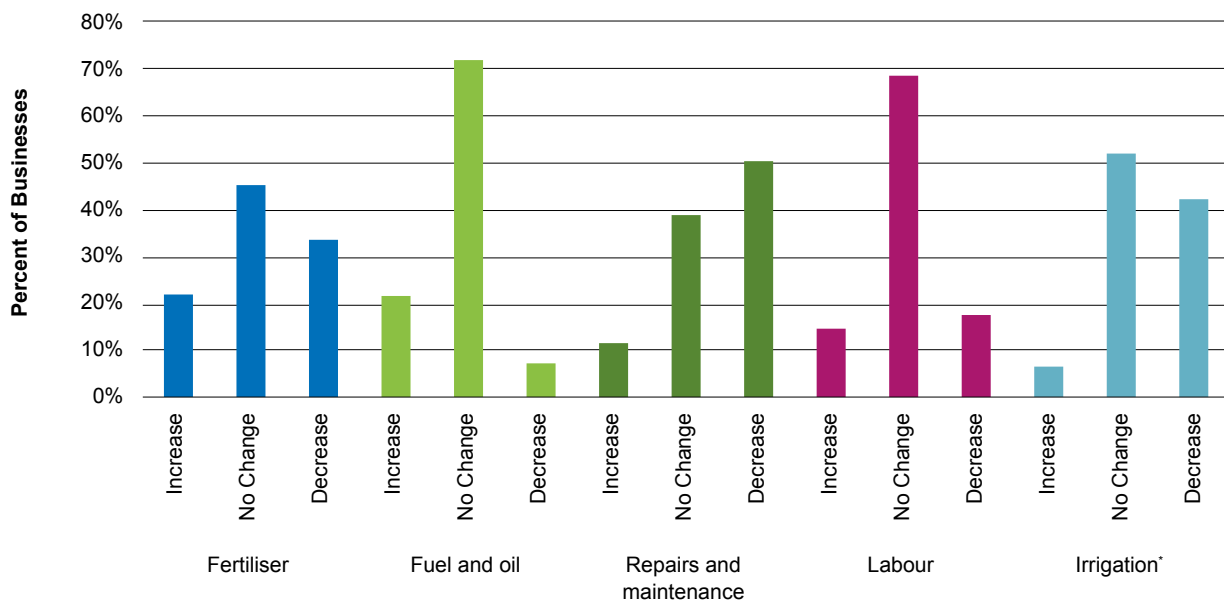
Data presented in Figure 47 details the expectations of costs for the dairy industry from 70 of the 75 participant farms in the project.

The majority of farmers expected input costs in all categories to remain unchanged or decrease. Over 70% of the farmers across the state were expecting fuel and oil costs for their farm to remain unchanged and half predicted the repairs and maintenance costs would decrease in the coming year.

Almost 70% of the participants predicted no change to their labour cost in 2016-17.

Among the irrigators, 52% predicted an increase and 42% no change to irrigation costs to their business for the coming year.

FIGURE 47. PRODUCER EXPECTATIONS OF COSTS FOR THE DAIRY INDUSTRY IN 2016-17



*only includes responses from 34 farms with irrigation

Major issues in the dairy industry – The next 12 months

Figure 48 shows a summary of the key issues identified by participant farmers for the coming 12 months. A total of 142 responses were recorded from 70 farmers; with four farmers giving “no comment” or responded with no notable concerns.

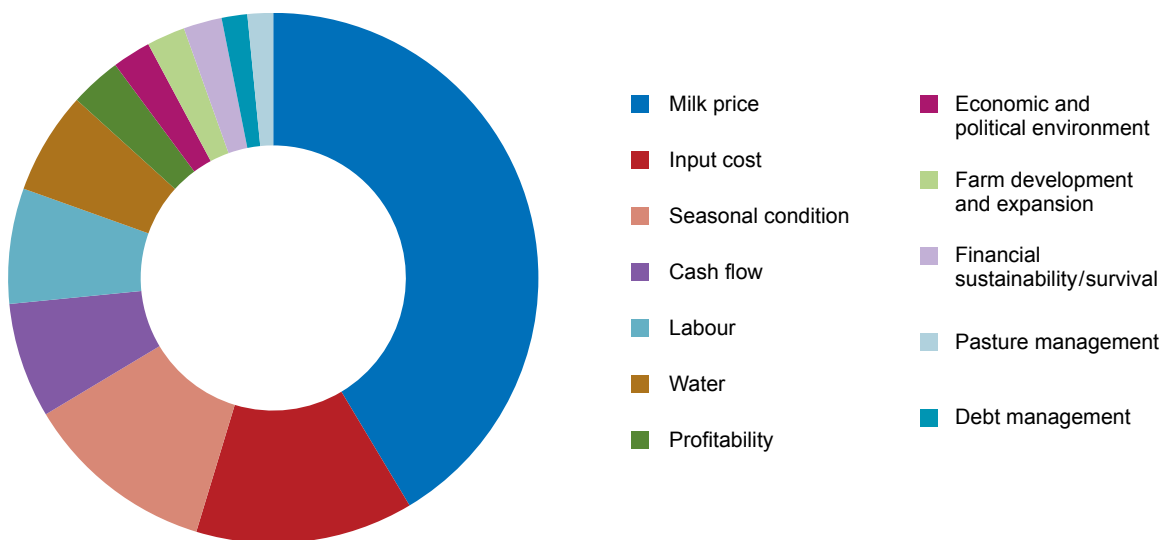
The major concern for farmers in the coming season was financial viability of their farm business. It included low milk price (41% of the responses compared to 11% in 2014-15) and input cost and availability (13%). With lower milk price and higher input costs, notably fodder, on the front of participants’ minds, the following issues were also raised; cash flow (7%), profitability (3%), debt management (2%) and financial sustainability and survival (2%). These concerns reinforced the prediction that business returns will deteriorate in 2016-17.

Similar to 2014-15, seasonal conditions (12%), availability and quality of labour (7%), and price and availability of water (6%) remained the main issues facing participant farms in 2016-17.

Managing pasture and growing fodder, planning for farm development, expansion and “economic and political environment” were also important challenges for the coming year. Other issues mentioned were herd size, herd management, lease arrangements, reducing expenses, managing work and personal time balance, purchase of machinery, future milk production level and general farm management issues.

In all regions, milk price was the dominant concern raised by farmers. In Gippsland, 38% of the responders were concerned about milk price followed by input costs (17%), seasonal variability (14%) and labour (10%). Participants in the North were also concerned about milk price, with 37% of the responses followed by water (17%) and input costs (11%). Half of the responses from farmers in the South West was concerning milk price, followed by seasonal conditions (15%), input cost (13%) and cash flow (10%).

FIGURE 48. MAJOR ISSUES FOR INDIVIDUAL BUSINESSES – 12 MONTH OUTLOOK



Major issues in the dairy industry – The next 5 years

The participants identified key issues for their business over the next five years (Figure 49). A total of 136 responses were recorded from 68 farms with six participants not making any comments.

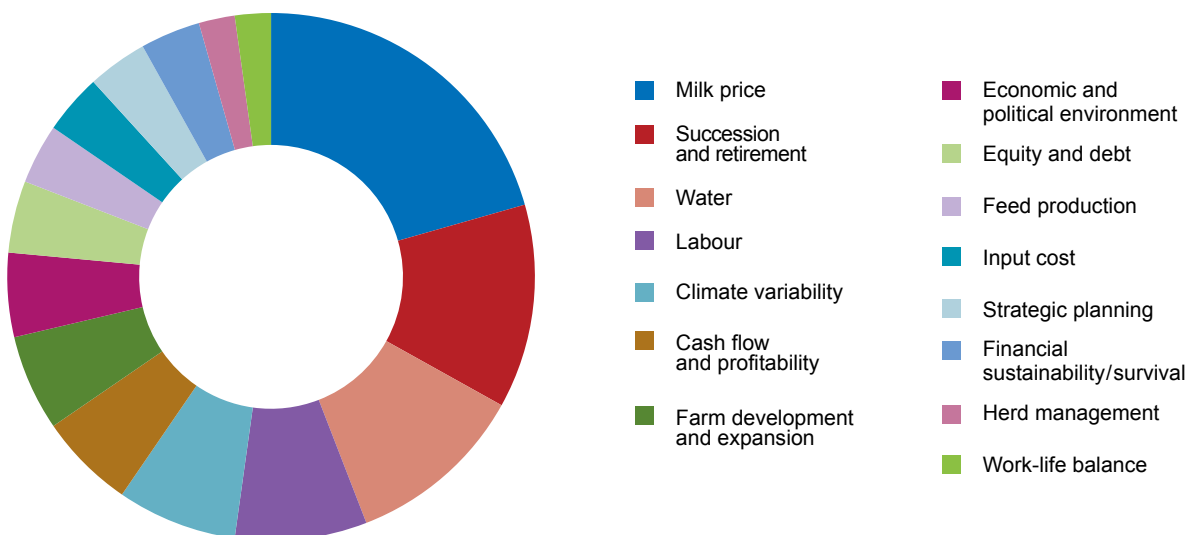
As in previous years, milk price (21% of responses) was identified as the leading issue for farmers. Succession and retirement (13%), water (11%), labour (8%) and climate variability (7%) were also identified as major challenges in the next five years.

The other main concerns for participants were managing cash flow, increasing or maintaining profitability, undertaking or planning farm expansion and development, reducing debt and increasing equity. Responses also pointed out the impacts of political and economic policies (regulations and need for extension services). While input costs was the second major concern in the next 12 months, it accounted for only 4% of the responses for longer term issues, the same

as managing fodder production, strategic planning and financial sustainability. A few farmers also made comments on herd management, work-life balance, reducing costs, business growth, share farming, urban encroachment, and the need to maintain confidence in the dairy industry.

Participants from the three regions differed slightly in their assessment of the main issues they would face for the period 2016-17 to 2020-21. In Gippsland and the South West, milk price (19% and 28%, respectively) and succession and retirement (14% and 15%, respectively) were the top two responses. The next area of major concern in Gippsland were cash flow and profitability (11%) and in the South West the next major concern was labour (13%). Participants from the North identified water policy, availability and prices (24%); milk price (15%), succession and retirement (9%) and financial sustainability (9%) as their main concerns.

FIGURE 49. MAJOR ISSUES FOR INDIVIDUAL BUSINESSES – 5 YEAR OUTLOOK



A few farmers mentioned that while they cannot influence farm gate price because it is largely dependent on the world market, they have the ability to manage their farm expenses.

A close-up photograph of a dark brown horse's head, facing right. The horse has a white blaze on its forehead. It is wearing a light-colored leather harness with several orange identification tags. The tags are stacked vertically and show the numbers '2', '0', and '7'. A blue plastic piece is attached to the harness near the horse's mouth. The background is a soft, out-of-focus green. The text 'Part Six: Greenhouse gas emissions' is overlaid in white on the right side of the image.

Part Six:
**Greenhouse gas
emissions**

2015-16 Greenhouse gas emissions

The average level of emission from participating farms was 13.7 t CO₂-e/t MS in 2015-16, higher than last year's 11.2 t CO₂-e/t MS. This year there were changes in the method of estimating greenhouse gas emissions which increased total emissions and therefore emissions intensity. When the new calculation was applied to last year's data the level of emissions is similar as that reported this year at 13.6 t CO₂-e/t MS on average.

Carbon dioxide equivalents (CO₂-e) are used to standardise the greenhouse potentials from different gases. The Global Warming Potential (GWP) is the index used to convert relevant non-carbon dioxide gases to a carbon dioxide equivalent. This is calculated by multiplying the quantity of each gas by its GWP. All of the data in this section is in CO₂-e tonnes and expressed per tonne of milk solids produced (CO₂-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 from 1: 21: 310 (CO₂: CH₄: N₂O) in 2014-15 to 1: 25: 298 (CO₂: CH₄: N₂O) in 2015-16. This means that one CO₂-e tonne equates to 40 kg of methane (CH₄) and 3.4 kg of nitrous oxide (N₂O). Other changes have included a decrease in the proportion of waste (dung and urine) deposited onto pastures while the milking herd graze, resulting in an increase in waste CH₄ and N₂O emissions along with some changes to the emission factors for N₂O emissions from nitrogen fertiliser and animal waste.

In addition, the estimation of greenhouse gas emissions now include a pre-farm gate emission source. This is the greenhouse gases emitted with the manufacturing of fertilisers and the production of purchased fodder, grain and concentrates. The result of these changes with the NGGI method and inclusion of pre-farm gate emissions will be an increase in emissions intensity of around 22%. This percentage increase will vary between farms and across regions.

The distribution of different emissions for 2015-16 is shown in Figure 50. Greenhouse gas emissions per tonne of milk solids produced ranged from 11.4 t CO₂-e/t MS to 16.9 t CO₂-e/t MS with an average emission level of 13.7 t CO₂-e/t MS. The percentage breakdown for emissions in 2015-16 was 67% for CH₄, 22% for CO₂, and 11% for N₂O emissions.

Methane was identified as the main greenhouse gas emitted from dairy farms, accounting for 67%, or 9.2 t CO₂-e/t MS, of all greenhouse emissions. There are two main sources of CH₄ emissions on farm: ruminant digestion and anaerobic digestion in effluent management systems. Methane produced from ruminant digestion is known as enteric CH₄ and was the major source of emissions from all farms in this report,

with an average of 58% of total emissions. Methane from effluent ponds accounted for 9% of total emissions on average across the state in 2015-16.

The most efficient strategy to reduce enteric CH₄ production is manipulating the diet by increasing the feed quality through improved pastures or supplementation with particular concentrates.

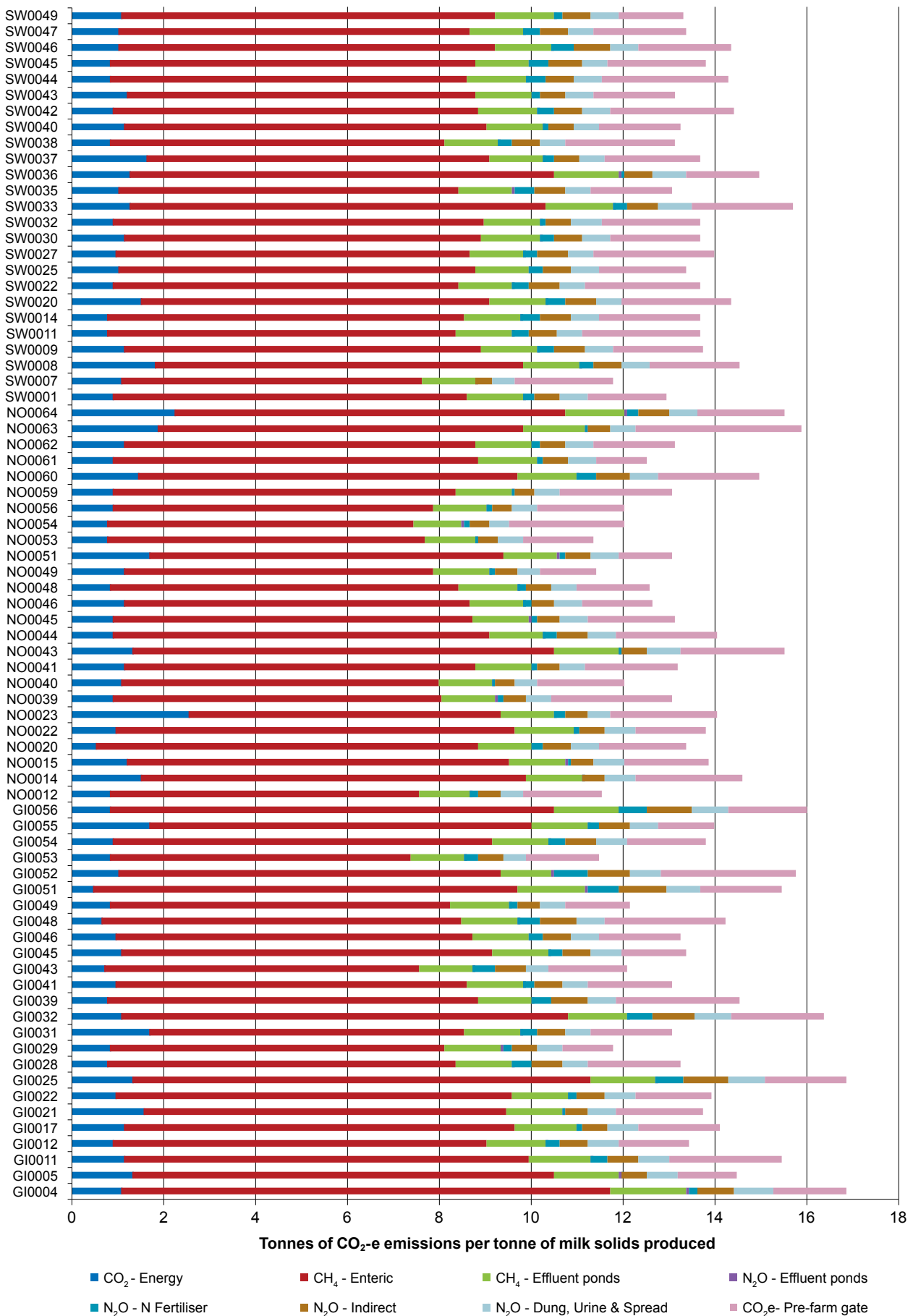
The second main greenhouse gas emission was CO₂ being produced primarily from fossil fuel consumption as either electricity or petrochemicals. The NGGI calculates carbon emissions from both pre-farm gates and on-farm sources. Carbon dioxide accounted for 22% of total emissions (3.1 t CO₂-e/t MS); 14% 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. There are a number of technologies available to improve energy efficiency in the dairy while reducing electricity costs.

The third main greenhouse gas emission was nitrous oxide, accounting for 11% of total emissions or 1.5 t CO₂-e/t MS. Nitrous oxide emissions on dairy farms are primarily derived from direct emissions; including nitrogen fertiliser application, effluent management systems, and animal excreta (dung and urine), as well as indirect emissions such as from ammonia and nitrate loss in soils.

Nitrous oxide emissions from fertiliser accounted for 2% of total emissions, effluent ponds accounted for 0.1% and excreta accounted for 4%. Nitrous oxide from indirect emissions was 4%. 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 N₂O. Strategic fertiliser management practices can reduce N₂O emissions and improve nitrogen efficiency.

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 gases and more details on sources of greenhouse gases on dairy farms visit the Australian Department of the Environment's website at <http://www.environment.gov.au/climate-change>.

FIGURE 50.
2015-16 GREENHOUSE GAS EMISSIONS PER TONNE OF MILK SOLIDS PRODUCED (CO₂ EQUIVALENT)



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Part Seven: **Historical analysis**



Historical analysis

This section compares the performance of participant farms in the Dairy Farm Monitor Project over the past ten years (2006-07 to 2015-16). The historical analysis compares the trends in farm performance between individual regions. While figures are adjusted for inflation to allow comparison between years it should be noted that the same farms do not participate each year and care needs be taken when comparing the performance across years.

The North

In 2015-16 farm profits were the second lowest recorded in the history of the project in 2015-16, similar to those recorded at the start of the project. The combination of below average rainfall, higher temperatures, a competitive temporary water market and falling milk prices provided challenging operating conditions for Northern Victoria farms. The decline in profits this year is in addition to the decline experienced the previous year and has led to an almost linear decline in profit performance since 2013-14 (Figure 51).

The millennium drought conditions that prevailed early in the study period impacted on farm profitability. In 2008-09 global trade declined rapidly and it resulted in a milk price reduction mid-season. In 2009-10 farmers were still recovering from the financial blow of 2008-09 with many deferring payments, capital expenditure and further debt reduction. The following year, 2011-12 saw good rainfall and water allocations help farmers reduce their input costs.

In 2012-13 a further decline in milk price and higher input costs resulted in lower farm profitability. While the North had below average rainfall, farms were able to reduce the impact of the drier conditions by accessing reasonably priced temporary water and irrigation allocations.

An improvement in operating conditions in 2013-14 with the second highest milk price received over the last ten years (in real terms), farm profits were at their highest. Water allocations were at 100%, enabling farmers to apply water early in the season to offset poor rain events.

The difference between EBIT and net income is interest and lease costs. In the North, interest and lease costs decreased slightly year on year, reaching the lowest levels on average seen in the history of the project at \$85,972/farm (in real terms) in 2015-16; the lowest interest and lease costs of all the regions.

The average RoA and RoE fell to negative territory in 2015-16 with values of -0.1% and -4.4% respectively. These are the lowest levels seen in this region since 2006-07, and were the second time RoA had dipped below zero over the study period (Figure 52).

A RoA becomes a lesser RoE when the rate of interest on loans or lease on leased capital is greater than the return from the additional assets managed. This is the case in the North for the previous two years.

The ten year average for RoA in the North was 4.4% and RoE was 2.5%

FIGURE 51. HISTORICAL FARM PROFITABILITY (REAL \$) – NORTH

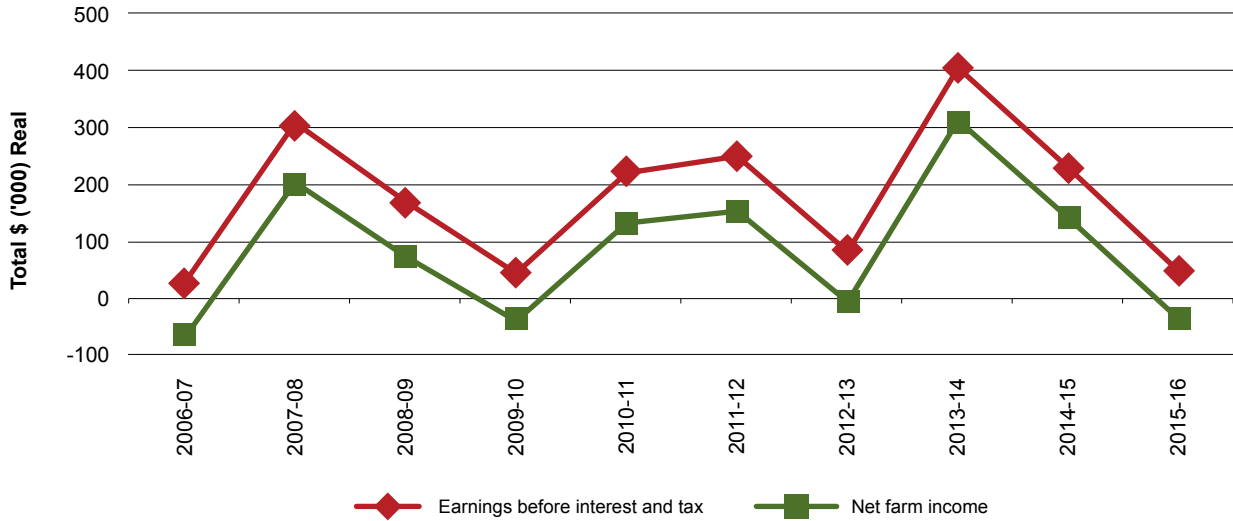
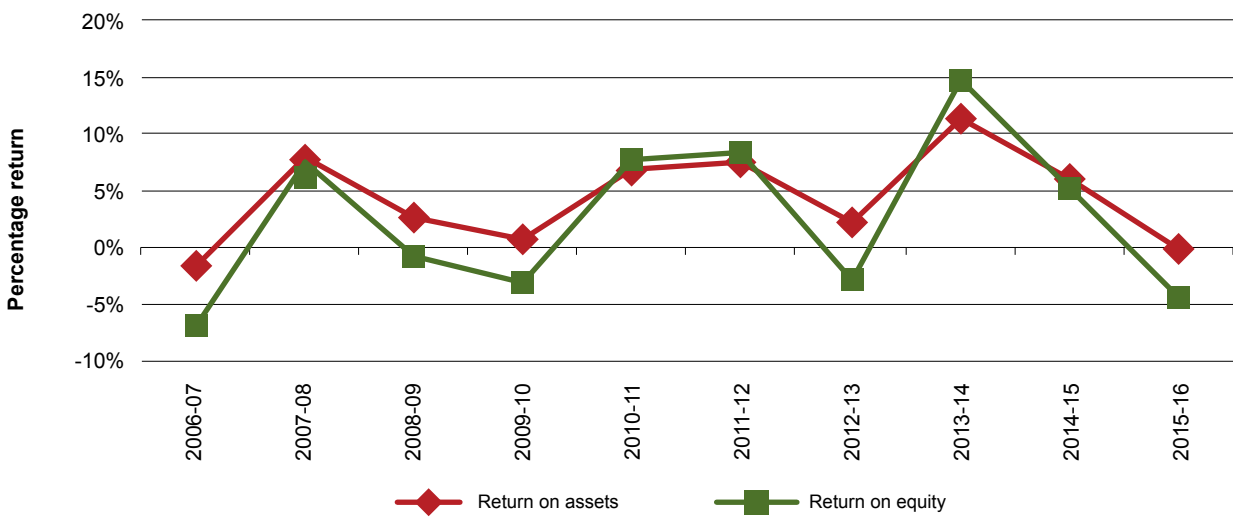


FIGURE 52. HISTORICAL WHOLE FARM PERFORMANCE – NORTH



The South West

2015-16 was the second lowest profit performance for farms in the South West. This year presented both physical and financial challenges. Below average rainfall totals for the majority of participants, with October 2015 rainfall the lowest on record for most parts of the region, significantly impacting pasture production. Farms fed out their long term fodder reserves and purchased more fodder than the previous year to manage the drier conditions. These conditions were compounded by an 11% reduction in milk price to \$5.47/kg MS, which was the third lowest seen in the history of the project (in real terms).

This was the second consecutive year where the South West had seen declining profits. In 2014-15 net farm income decreased by 47% from the 2013-14 to average \$150,094 (real). Figure 53 shows EBIT and net farm income have a pattern of recording peak profits (e.g. 2013-14), followed by falling profits over the next two consecutive years (e.g. 2014-15 and 2015-16). This can be seen over the history of the project for this region.

The previous three-year period, between 2010-11 and 2013-14, saw profits peak in 2010-11, followed by declining profits in the subsequent two years. In 2010-11 higher milk prices and above average rainfall compensated for waterlogged pastures and lower milk production. The following year was significantly drier with rainfall totals ranking in deciles 1-3 of the long term average. A second failed spring in 2012-13 coupled with a reduced milk price and rising input costs resulted in the lowest profit performance over the ten-year analysis period.

The gap between EBIT and net farm income was steadily increasing over the first five years of the project until 2011-12 and has been declining since this point until this year, 2015-16, when interest and lease costs rose to \$161,274. The South West has the greatest interest and lease costs of all the regions due to their larger farm size and higher asset base.

The RoA and RoE performance is shown in Figure 54. The poorest results in the South West were exhibited in 2012-13 with a 0.2% RoA and -12.7% RoE. In contrast to 2007-08 when the South West received its best performance results of 11.2% return on asset and 14.8% RoE and experienced near-perfect climatic and economic operating conditions.

The lower profit performance in 2015-16 dropped the ten-year average for RoA in South West Victoria slightly, averaging 4.2% and RoE decreased to 2.3%.

FIGURE 53. HISTORICAL FARM PROFITABILITY (REAL \$) – SOUTH WEST

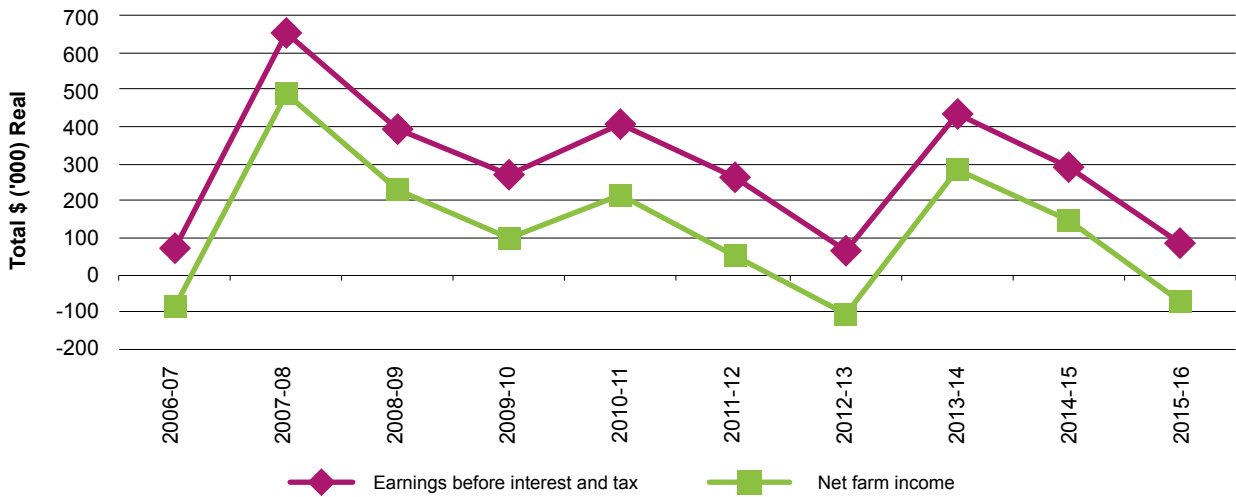
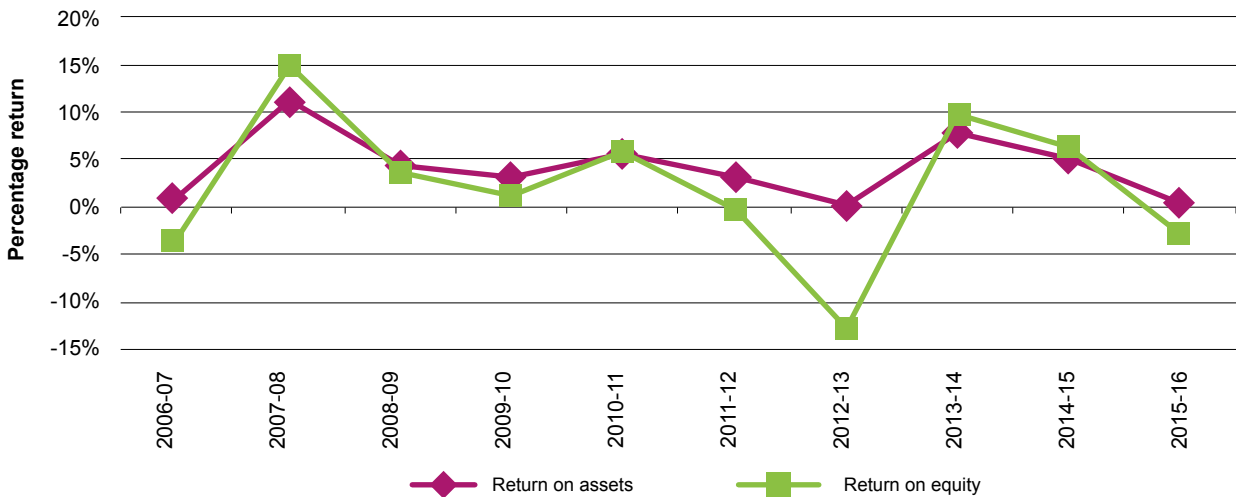


FIGURE 54. HISTORICAL WHOLE FARM PERFORMANCE – SOUTH WEST



Gippsland

In 2015-16 farm profitability in Gippsland reached the third lowest level recorded over the history of the project. The geographical spread of farms in the region resulted in varied profit performance between individual farms this year, with farms located in the Macalister Irrigation District (MID) able to mitigate the drier conditions with access to irrigation compared to those farms located in south and west Gippsland. The average net farm income fell to -\$16,174 because of lower milk prices and higher input costs, particularly purchased feed to manage the lower pasture production.

Net farm income also fell below zero in 2006-07 and 2012-13 on the back of below average rainfall conditions and lower than the long term average Gippsland milk price of \$5.95/kg MS (real). The data shows that the combination of challenging seasonal and financial conditions has the largest impact on farm profitability amongst Gippsland participants.

In 2013-14 milk price peaked, operating conditions were favourable and farm profitability reached its third highest level seen over the history of the project recording a net farm income of \$193,125 (real). Last year, in 2014-15, farm profit margins were under pressure with a lower milk price despite reducing costs and net farm income fell in line with the long-term average.

The gap between the EBIT and net farm income lines in Figure 55 shows interest and lease costs have fluctuated between \$105,532 (real) in 2010-11, down to \$78,213 (real) in 2007-08. Interest and lease costs decreased from the previous year, falling to \$88,486 in 2015-16.

Return on assets and RoE shows similar declines in farm performance this year, falling to 1.3% and -2.3% in 2015-16 (Figure 56). This is below the long-term average of 4.0% and 3.8% respectively for the Gippsland region.

FIGURE 55. HISTORICAL FARM PROFITABILITY (REAL \$) – GIPPSLAND

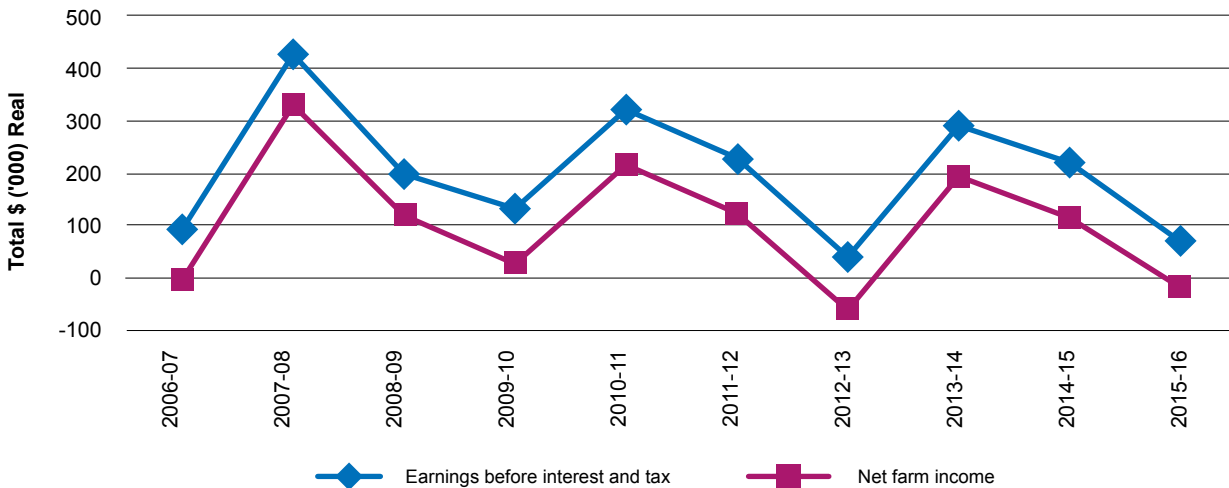
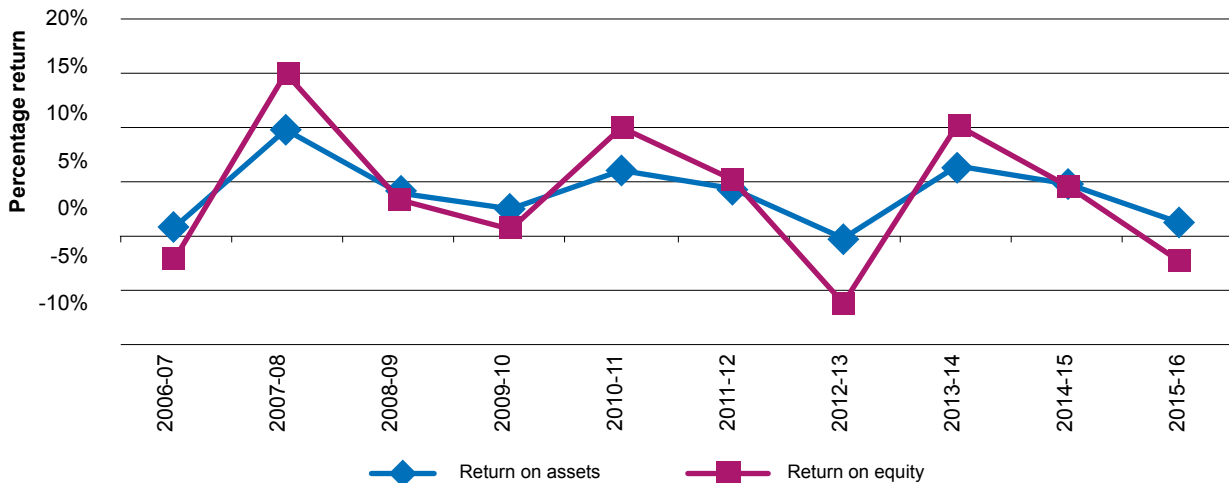


FIGURE 56. HISTORICAL WHOLE FARM PERFORMANCE – GIPPSLAND



Regional comparison

Profit performance of the three regions over the last ten years is compared in Figures 57 to 60.

Farms profits were the second lowest seen over the project's history in the North and Gippsland and the third lowest in the South West. The combination of the drier seasonal conditions and lower milk price provided challenging conditions for the Victorian dairying regions in 2015-16.

The North recorded the lowest EBIT of all the regions in 2015-16 (figure 57). The South West had reduced net farm income due to the higher interest and lease costs on average (Figure 58). For farms in the North the doubling of temporary water prices on the previous year and higher fodder costs had a large impact on farm profitability. Access to irrigation allocations and temporary water prices were the predominate factors influencing profits in this region.

The South West performed strongest in the early part of the analysis period, compared to the other regions.

Although this region has not always received the highest milk price of the regions in the history of the project, in the last three years it has received the highest average price enabling the South West to be more resilient to adverse seasonal conditions.

In a historical sense, strong economic performance in Gippsland was perceived to be linked to the milk price received. Stronger returns had been obtained when milk price had been higher, specifically 2007-08 and 2010-11, and much lower returns in 2006-07, 2009-10, 2012-13 and 2015-16 when Gippsland received the lowest average milk prices. This can partially be explained by the seasonal nature of milk production in Gippsland.

Gippsland farm performance has consistently fallen between the performance of the other two regions over the history of the project; excluding average whole farm EBIT recorded in past three years which was the lowest, due in part to the smaller herd size (Figure 57).

FIGURE 57. REGIONAL HISTORICAL EARNINGS BEFORE INTEREST AND TAX (REAL \$)

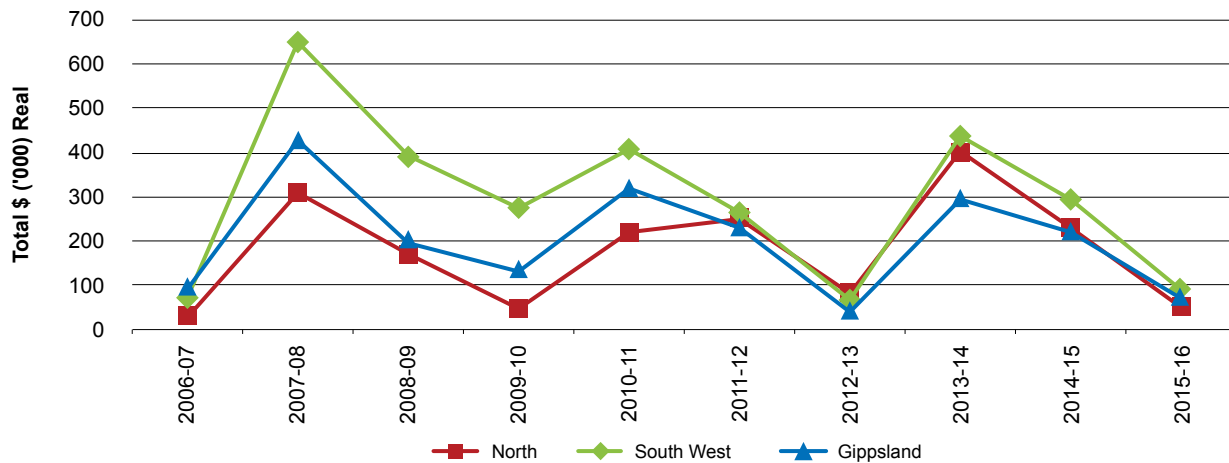


FIGURE 58. REGIONAL HISTORICAL NET FARM INCOME (REAL \$)

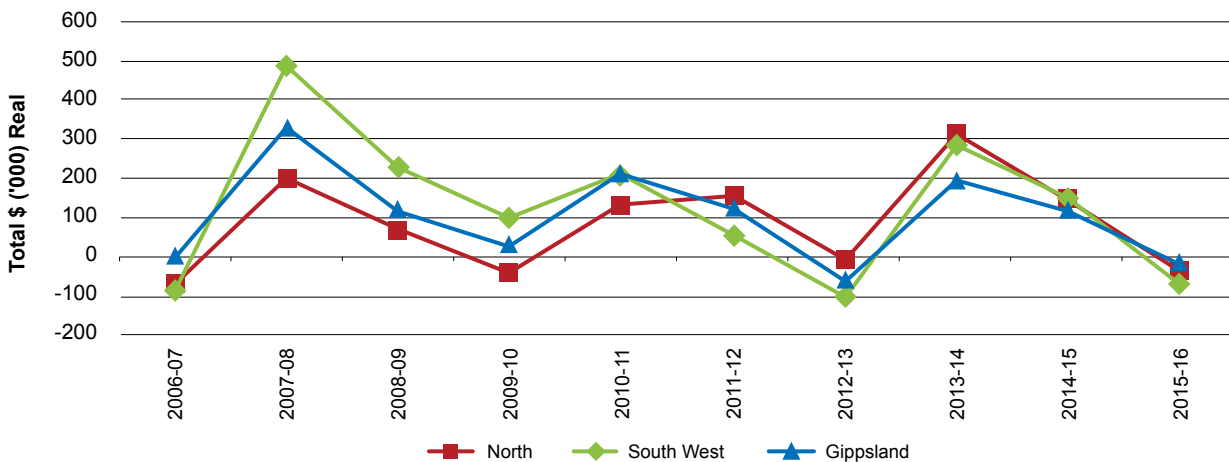


FIGURE 59. REGIONAL HISTORICAL RETURN ON ASSETS

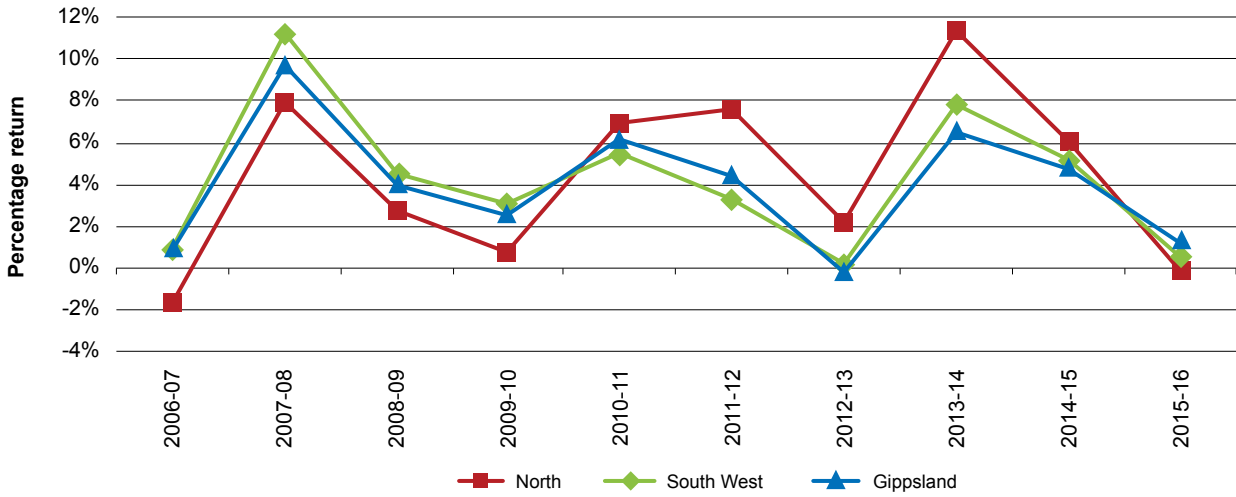
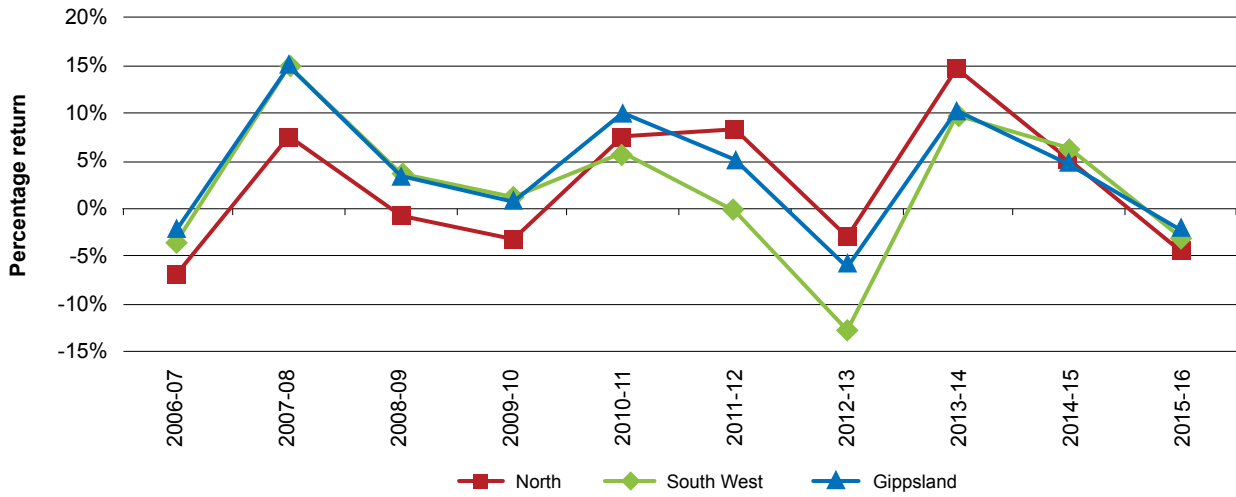


FIGURE 60. REGIONAL HISTORICAL RETURN ON EQUITY



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	Return on equity (incl. capital apprec.)
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	%	\$/ KG MS	%	\$/ KG MS	% OF INCOME	\$/ KG MS	%	%
Average	\$5.40	\$0.50	\$5.90	\$3.62	\$2.10	63%	\$0.18	0.6%	\$0.59	10.0%	-\$0.41	-3.2%	-3.7%
Top 25%	\$5.65	\$0.59	\$6.23	\$3.24	\$1.80	64%	\$1.19	4.5%	\$0.66	10.6%	\$0.53	3.8%	3.6%

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	252	162	836	345	1.6	511	818	4.2%	3.5%
Top 25%	324	208	883	445	1.7	548	915	4.2%	3.4%

Farm number	Estimated grazed pasture*	Estimated conserved feed*	Home grown feed as % of ME consumed	Nitrogen application	Phosphorous application	Potassium application	Sulphur application	Labour efficiency	Labour efficiency
	T DM/ HA	T DM/ HA	% OF ME	KG/ HA	KG/ HA	KG/ HA	KG/ HA	HD/ FTE	KG MS/ FTE
Average	5.8	1.2	53%	113.2	16.1	30.1	17.9	109	55,943
Top 25%	6.5	1.4	57%	151.4	21.4	38.7	15.9	119	65,027

*on milking area

TABLE A3
Purchased feed - Statewide

Farm number	Purchased feed per milker	Concentrate price	Silage price	Hay price	Other feed price	Average purchased feed price	Average ME of purchased feed	Average purchased feed price	Percent of total energy imported
	T DM/HD	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	MJ ME/ KG	C/ MJ	% OF ME
Average	2.7	\$402	\$287	\$283	\$408	\$370	11.8	3.3	47%
Top 25%*	2.6	\$383				\$360	12.0	3.1	43%

TABLE A4
Variable costs - Statewide

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
Average	\$0.12	\$0.13	\$0.03	\$0.11	\$0.08	\$0.47	\$0.36	\$0.25	\$0.14
Top 25%*	\$0.12	\$0.12	\$0.03	\$0.09	\$0.07	\$0.44	\$0.41	\$0.19	\$0.11

Farm number	Fuel and oil	Pasture improvement/ cropping	Other feed costs	Fodder purchases	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	\$0.09	\$0.17	\$0.04	\$0.48	\$1.55	\$0.08	\$3.15	\$3.62
Top 25%	\$0.07	\$0.17	\$0.03	\$0.36	\$1.36	\$0.10	\$2.80	\$3.24

TABLE A5

Overhead costs - Statewide

Farm number	Rates	Registration and insurance	Farm insurance	Repairs and maintenance	Bank charges	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	\$/ KG MS	\$/ KG MS
Average	\$0.05	\$0.02	\$0.06	\$0.32	\$0.02	\$0.12	\$0.48	\$1.07	\$0.24	\$0.79	\$2.10
Top 25%	\$0.04	\$0.01	\$0.05	\$0.31	\$0.01	\$0.11	\$0.41	\$0.95	\$0.22	\$0.63	\$1.80

TABLE A6

Variable costs % - Statewide

Percentage of total farm costs

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
Average	2.1%	2.3%	0.6%	1.9%	1.4%	8.3%	6.4%	1.8%	2.5%
Top 25%	2.4%	2.5%	0.7%	1.8%	1.3%	8.7%	8.2%	1.6%	2.2%

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	1.5%	3.0%	0.7%	8.1%	27.1%	1.5%	54.9%	63.2%
Top 25%	1.4%	3.3%	0.7%	6.9%	27.0%	2.0%	55.3%	64.0%

TABLE A7

Overhead costs - Statewide

Percentage of total farm costs

Farm number	Rates	Registration and insurance	Farm insurance	Repairs and maintenance	Bank charges	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	% OF COSTS	% OF COSTS
Average	1.0%	0.4%	1.0%	5.7%	0.3%	2.0%	8.5%	18.8%	4.2%	13.8%	36.8%
Top 25%	0.8%	0.3%	1.0%	6.2%	0.1%	2.2%	8.1%	18.8%	4.4%	12.8%	36.0%

TABLE A8

Capital structure - Statewide

	FARM ASSETS				OTHER FARM ASSETS (PER USABLE HECTARE)					LIABILITIES		EQUITY	
	Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	Total assets	Liabilities	Liabilities	Equity	Average equity
	\$/HA	\$/COW	\$/HA	\$/COW	\$/HA	\$/HA	\$/HA	\$/HA	\$/HA	\$/HA	\$/COW	\$/HA	%
Average	\$11,921	\$7,439	\$2,142	\$1,165	\$1,460	\$3,073	\$179	\$898	\$18,614	\$6,220	\$4,122	\$12,394	66%
Top 25%	\$12,371	\$7,132	\$2,972	\$1,587	\$1,509	\$3,218	\$201	\$1,527	\$20,655	\$6,447	\$4,379	\$14,209	64%

TABLE A9

Historical data - Statewide

Average farm income, costs and profit per kilogram of milk solids

	INCOME				VARIABLE COSTS							
	Milk income (net)		Gross farm income		Herd costs		Shed costs		Feed costs		Total variable costs	
	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	\$5.53	\$5.23	\$6.48	\$0.21	\$0.26	\$0.15	\$0.18	\$2.83	\$3.51	\$3.23	\$4.01
2007-08	\$6.57	\$7.79	\$7.80	\$9.26	\$0.24	\$0.28	\$0.14	\$0.17	\$3.39	\$4.02	\$3.79	\$4.50
2008-09	\$5.35	\$6.25	\$6.08	\$7.11	\$0.23	\$0.27	\$0.15	\$0.17	\$2.85	\$3.33	\$3.23	\$3.77
2009-10	\$4.46	\$5.06	\$5.17	\$5.86	\$0.22	\$0.25	\$0.16	\$0.18	\$2.20	\$2.50	\$2.58	\$2.92
2010-11	\$5.64	\$6.17	\$6.47	\$7.08	\$0.26	\$0.29	\$0.18	\$0.20	\$2.27	\$2.48	\$2.71	\$2.97
2011-12	\$5.52	\$5.97	\$5.97	\$6.46	\$0.26	\$0.28	\$0.19	\$0.21	\$2.33	\$2.52	\$2.78	\$3.00
2012-13	\$4.90	\$5.18	\$5.25	\$5.55	\$0.27	\$0.29	\$0.22	\$0.24	\$2.59	\$2.73	\$3.08	\$3.25
2013-14	\$6.79	\$6.96	\$7.44	\$7.63	\$0.28	\$0.28	\$0.22	\$0.22	\$2.90	\$2.97	\$3.39	\$3.48
2014-15	\$6.04	\$6.11	\$6.61	\$6.68	\$0.29	\$0.29	\$0.20	\$0.20	\$2.90	\$2.93	\$3.39	\$3.43
2015-16	\$5.40	\$5.40	\$5.90	\$5.90	\$0.28	\$0.28	\$0.19	\$0.19	\$3.15	\$3.15	\$3.62	\$3.62
Average		\$6.04		\$6.80		\$0.28		\$0.20		\$3.01		\$3.50

	OVERHEAD COSTS						PROFIT							
	Cash overhead costs		Non-cash overhead costs		Total overhead costs		Earnings before interest & tax		Interest & lease charges		Net farm income		RETURN ON ASSETS	RETURN ON EQUITY
	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)		
2006-07	\$0.77	\$0.95	\$1.17	\$1.45	\$1.94	\$2.40	\$0.06	\$0.07	\$0.58	\$0.72	-\$0.52	-\$0.65	0.1%	-4.1%
2007-08	\$0.84	\$1.00	\$0.88	\$1.04	\$1.62	\$1.93	\$2.39	\$2.83	\$0.63	\$0.75	\$1.75	\$2.08	9.8%	12.4%
2008-09	\$0.82	\$0.96	\$0.88	\$1.03	\$1.70	\$1.99	\$1.08	\$1.26	\$0.59	\$0.69	\$0.49	\$0.58	3.8%	2.2%
2009-10	\$0.84	\$0.95	\$1.05	\$1.19	\$1.89	\$2.14	\$0.65	\$0.74	\$0.68	\$0.77	-\$0.03	-\$0.03	2.2%	-0.3%
2010-11	\$1.00	\$1.10	\$1.02	\$1.11	\$2.02	\$2.21	\$1.73	\$1.90	\$0.76	\$0.83	\$0.98	\$1.07	6.2%	7.8%
2011-12	\$0.99	\$1.07	\$1.07	\$1.15	\$2.06	\$2.22	\$1.14	\$1.24	\$0.71	\$0.77	\$0.43	\$0.47	5.0%	4.4%
2012-13	\$0.99	\$1.05	\$1.09	\$1.15	\$2.08	\$2.20	\$0.09	\$0.10	\$0.70	\$0.73	-\$0.60	-\$0.64	0.7%	-7.3%
2013-14	\$1.05	\$1.08	\$0.97	\$1.00	\$2.03	\$2.08	\$2.02	\$2.07	\$0.65	\$0.66	\$1.38	\$1.41	8.5%	11.6%
2014-15	\$1.08	\$1.09	\$0.90	\$0.91	\$1.97	\$1.99	\$1.25	\$1.26	\$0.60	\$0.61	\$0.64	\$0.65	5.3%	5.2%
2015-16	\$1.07	\$1.07	\$1.03	\$1.03	\$2.10	\$2.10	\$0.18	\$0.18	\$0.59	\$0.59	-\$0.41	-\$0.41	0.6%	-3.2%
Average		\$1.03		\$1.11		\$2.13		\$1.16		\$0.71		\$0.45	4.2%	2.9%

Note: 'Real' dollar values are the nominal values converted to 2015-16 dollar equivalents by the consumer price index (CPI) to allow for inflation.

TABLE A10

Historical data - Statewide

Average farm physical information

	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Estimated graze 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	\$408
2007-08	265	250	683	332	1.3	489	612	4.8	1.0	64%	\$425	\$504
2008-09	256	237	691	330	1.5	498	741	5.6	0.9	62%	\$375	\$438
2009-10	232	219	903	307	1.5	496	752	6.2	0.8	66%	\$273	\$309
2010-11	236	227	1,104	305	1.4	493	719	5.8	1.9	65%	\$301	\$329
2011-12	237	160	967	328	1.6	508	800	6.2	1.0	57%	\$296	\$320
2012-13	232	154	818	323	1.6	495	781	6.2	1.2	58%	\$336	\$355
2013-14	242	157	993	335	1.6	498	810	6.6	1.4	62%	\$388	\$398
2014-15	248	160	818	350	1.6	514	845	6.5	1.2	59%	\$405	\$409
2015-16	252	163	836	345	1.6	511	818	5.8	1.2	53%	\$402	\$402
Average	247	199	842	330	1.5	495	751	5.9	1.2	61%		\$387

* 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	Return on equity (incl. capital apprec.)
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	%	\$/ KG MS	%	\$/ KG MS	% OF INCOME	\$/ KG MS	%	%
NO0012	\$5.64	\$0.71	\$6.35	\$4.54	\$1.70	73%	\$0.11	0.5%	\$0.20	3.2%	-\$0.09	-0.6%	-0.6%
NO0014	\$5.21	\$0.75	\$5.96	\$3.50	\$2.80	56%	-\$0.34	-1.1%	\$0.60	10.1%	-\$0.94	-4.2%	-4.0%
NO0015	\$4.85	\$0.57	\$5.42	\$3.79	\$1.74	69%	-\$0.11	-0.4%	\$0.52	9.6%	-\$0.63	-2.7%	-3.3%
NO0020	\$6.23	\$0.45	\$6.67	\$3.06	\$1.59	66%	\$2.03	6.9%	\$0.67	10.1%	\$1.35	12.5%	19.4%
NO0022	\$5.26	\$0.56	\$5.83	\$3.47	\$1.90	65%	\$0.46	1.5%	\$0.33	5.7%	\$0.13	0.5%	-0.5%
NO0023	\$5.97	\$0.15	\$6.12	\$3.76	\$1.67	69%	\$0.69	3.9%	\$0.44	7.2%	\$0.25	2.4%	2.4%
NO0039	\$5.45	\$0.62	\$6.07	\$4.99	\$1.76	74%	-\$0.68	-4.0%	\$0.42	6.9%	-\$1.10	-9.8%	-10.4%
NO0040	\$5.40	\$0.28	\$5.68	\$4.23	\$2.20	66%	-\$0.75	-5.1%	\$0.25	4.4%	-\$1.00	-12.8%	-6.0%
NO0041	\$4.96	\$0.56	\$5.52	\$4.54	\$1.92	70%	-\$0.93	-5.0%	\$0.51	9.3%	-\$1.44	-27.2%	-25.4%
NO0043	\$5.24	-\$0.16	\$5.08	\$4.47	\$3.01	60%	-\$2.40	-7.9%	\$0.58	11.3%	-\$2.98	-13.3%	-13.1%
NO0044	\$5.95	\$0.70	\$6.65	\$4.43	\$1.37	76%	\$0.85	4.2%	\$0.36	5.4%	\$0.49	3.6%	3.6%
NO0045	\$5.97	\$0.68	\$6.66	\$4.79	\$1.83	72%	\$0.04	0.2%	\$0.44	6.6%	-\$0.40	-3.7%	-5.9%
NO0046	\$5.19	\$0.26	\$5.45	\$3.42	\$1.82	65%	\$0.21	1.2%	\$0.69	12.6%	-\$0.48	-7.2%	5.5%
NO0048	\$4.67	-\$0.17	\$4.50	\$3.21	\$1.38	70%	-\$0.09	-0.4%	\$0.28	6.2%	-\$0.37	-1.9%	-1.8%
NO0049	\$5.48	\$0.66	\$6.14	\$4.28	\$1.76	71%	\$0.10	0.8%	\$0.51	8.4%	-\$0.41	-6.0%	-6.3%
NO0051	\$5.46	\$1.22	\$6.69	\$3.39	\$2.18	61%	\$1.11	2.8%	\$0.91	13.6%	\$0.20	0.9%	0.9%
NO0053	\$5.54	\$0.46	\$6.01	\$3.54	\$1.50	70%	\$0.97	4.8%	\$0.11	1.8%	\$0.86	4.9%	4.9%
NO0054	\$6.26	\$0.29	\$6.55	\$4.14	\$1.55	73%	\$0.86	4.4%	\$0.29	4.4%	\$0.57	4.5%	0.4%
NO0056	\$5.90	\$0.60	\$6.50	\$4.56	\$2.12	68%	-\$0.18	-0.6%	\$0.82	12.6%	-\$1.00	-9.5%	-9.5%
NO0059	\$4.81	\$0.40	\$5.21	\$4.95	\$1.51	77%	-\$1.25	-8.8%	\$0.50	9.6%	-\$1.75	-26.0%	-31.3%
NO0060	\$5.83	\$0.97	\$6.80	\$3.63	\$2.27	61%	\$0.90	3.4%	\$0.53	7.8%	\$0.37	2.2%	2.2%
NO0061	\$5.33	\$0.01	\$5.34	\$2.97	\$1.95	60%	\$0.43	1.5%	\$0.13	2.5%	\$0.30	1.1%	-1.9%
NO0062	\$5.42	\$0.72	\$6.14	\$4.04	\$1.67	71%	\$0.42	2.1%	\$0.44	7.2%	-\$0.02	-0.2%	-2.3%
NO0063	\$5.16	\$0.78	\$5.94	\$5.17	\$2.05	72%	-\$1.27	-6.0%	\$0.34	5.8%	-\$1.62	-10.7%	-11.6%
NO0064	\$5.41	\$0.84	\$6.25	\$4.73	\$1.99	70%	-\$0.46	-1.7%	\$0.66	10.6%	-\$1.12	-6.3%	-8.8%
Average	\$5.46	\$0.52	\$5.98	\$4.06	\$1.89	68%	\$0.03	-0.1%	\$0.46	7.7%	-\$0.43	-4.4%	-4.1%
Top25%*	\$5.96	\$0.50	\$6.47	\$3.76	\$1.66	69%	\$1.05	4.6%	\$0.40	6.1%	\$0.65	5.0%	5.5%

* 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	962	800	1.7	650	1,102	4.0%	3.4%
NO0014	440	300	861	405	0.9	498	458	4.0%	3.3%
NO0015	238	92	744	305	1.3	481	616	4.4%	3.6%
NO0020	508	306	846	508	1.0	604	604	3.7%	3.3%
NO0022	226	105	766	320	1.4	476	674	4.5%	3.5%
NO0023	342	155	778	380	1.1	530	589	4.5%	3.6%
NO0039	90	70	1,291	332	3.7	488	1800	4.6%	3.8%
NO0040	99	99	867	225	2.3	552	1254	4.4%	3.5%
NO0041	225	153	712	297	1.3	525	693	4.2%	3.4%
NO0043	60	60	1,012	162	2.7	375	1014	4.8%	3.6%
NO0044	140	100	1,128	330	2.4	543	1281	4.4%	3.5%
NO0045	223	114	875	381	1.7	532	907	3.9%	3.4%
NO0046	117	102	1,136	335	2.9	536	1534	4.4%	3.6%
NO0048	146	62	693	212	1.5	466	677	4.7%	3.6%
NO0049	108	91	1,344	357	3.3	481	1590	4.6%	3.6%
NO0051	205	105	823	174	0.8	517	439	4.2%	3.5%
NO0053	120	112	1,146	400	3.3	636	2,121	4.3%	3.5%
NO0054	737	310	780	1,010	1.4	688	944	4.0%	3.3%
NO0056	263	98	796	242	0.9	648	596	3.9%	3.2%
NO0059	172	75	819	292	1.7	533	905	4.2%	3.3%
NO0060	158	122	1,082	346	2.2	474	1038	4.2%	3.4%
NO0061	205	114	920	265	1.3	509	657	4.1%	3.2%
NO0062	205	125	745	265	1.3	530	685	4.3%	3.5%
NO0063	64	64	980	240	3.8	459	1720	3.7%	3.1%
NO0064	289	254	1,035	600	2.1	431	896	4.4%	3.7%
Average	234	142	926	367	1.9	527	992	4.3%	3.4%
Top 25%*	334	184	960	496	1.9	579	1096	4.2%	3.4%

TABLE B2

Physical information - North

(Continued)

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	3.3	4.4	53%	119.6	27.5	12.1	15.0	134	87,146
NO0014	3.8	0.9	47%	4.1	25.9	0.0	22.1	77	38,438
NO0015	6.2	2.0	45%	25.6	10.8	0.0	12.1	127	60,975
NO0020	3.0	1.5	51%	81.4	15.7	8.2	16.2	108	65,184
NO0022	10.5	0.0	70%	38.5	12.3	0.0	13.6	130	62,075
NO0023	6.0	2.0	51%	66.1	40.0	105.5	19.6	116	61,268
NO0039	11.8	0.1	39%	133.5	9.6	0.0	0.8	115	56,213
NO0040	4.5	1.5	38%	41.8	0.0	0.0	0.0	86	47,247
NO0041	5.2	1.4	55%	41.7	11.8	0.0	0.9	99	51,815
NO0043	5.6	1.3	42%	26.0	6.3	0.0	3.9	110	41,124
NO0044	8.2	1.9	46%	211.7	54.9	83.3	18.1	127	69,201
NO0045	10.7	1.5	45%	65.6	2.3	0.0	8.3	92	48,721
NO0046	7.3	1.0	43%	123.7	15.6	0.0	6.2	107	57,522
NO0048	8.5	1.1	57%	67.3	12.1	0.0	6.7	168	78,329
NO0049	13.8	0.8	67%	134.3	12.8	41.0	9.5	137	65,883
NO0051	5.2	1.5	55%	37.9	20.2	10.5	12.3	108	55,940
NO0053	10.7	0.2	46%	107.2	8.3	0.0	0.7	133	84,614
NO0054	5.1	1.0	38%	60.2	15.5	10.0	40.1	124	85,285
NO0056	6.7	0.5	52%	42.0	16.3	3.5	8.4	71	45,780
NO0059	6.4	0.8	32%	24.5	6.4	0.0	0.5	105	55,858
NO0060	8.8	0.0	51%	232.9	0.0	0.0	0.0	82	38,676
NO0061	7.4	2.1	76%	46.4	7.3	7.8	12.4	106	54,012
NO0062	5.6	0.0	58%	78.2	7.7	0.0	0.6	123	64,962
NO0063	7.6	0.0	32%	50.3	3.0	88.8	267.9	101	46,533
NO0064	6.5	0.8	57%	127.1	13.8	0.0	1.1	125	53,939
Average	7.1	1.1	50%	79.5	14.2	14.8	19.9	112	59,070
Top 25%*	6.9	1.1	47%	126.6	22.4	34.5	15.8	115	67,371

** on milking area

TABLE B3

Purchased feed - North

Farm number	Purchased feed per milker	Concentrate price	Silage price	Hay price	Other feed price	Average purchased feed price	Average ME of purchased feed	Average purchased feed price	Percent of total energy imported
	T DM/HD	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	MJ ME/ KG	C/ MJ	% OF ME
NO0012	3.4	\$413	\$209	\$172	\$388	\$347	11.3	3.2	47%
NO0014	3.9	\$314	\$495	\$233		\$279	11.8	2.5	53%
NO0015	3.4	\$326	\$152	\$297	\$147	\$282	11.2	2.7	55%
NO0020	3.2	\$344		\$288		\$335	12.7	2.7	49%
NO0022	2.1	\$465		\$266		\$410	11.3	3.8	30%
NO0023	3.2	\$371	\$220	\$246		\$312	10.9	3.1	49%
NO0039	4.2	\$386		\$302		\$336	9.9	3.7	61%
NO0040	3.7	\$433	\$243	\$331		\$370	11.2	3.5	62%
NO0041	3.2	\$447		\$263		\$386	11.2	3.6	45%
NO0043	2.4	\$395		\$246		\$350	12.0	3.1	58%
NO0044	3.3	\$344	\$291	\$260		\$315	11.3	3.0	54%
NO0045	3.2	\$436	\$299	\$235		\$374	11.6	3.4	55%
NO0046	2.3	\$295	\$122	\$342		\$268	11.2	2.6	57%
NO0048	2.0	\$339		\$213	\$386	\$302	12.1	2.6	43%
NO0049	1.7	\$415	\$400	\$200	\$153	\$355	11.8	3.2	33%
NO0051	1.4	\$408				\$408	12.5	3.3	45%
NO0053	3.0	\$341	\$662	\$142		\$393	12.3	3.3	54%
NO0054	5.1	\$428	\$196	\$189		\$324	10.8	3.2	62%
NO0056	3.3	\$425		\$306		\$396	12.2	3.4	48%
NO0059	4.4	\$455		\$265		\$353	11.3	3.4	68%
NO0060	3.0	\$366	\$203	\$209		\$297	11.2	2.8	49%
NO0061	1.5	\$346		\$203		\$318	11.8	2.8	24%
NO0062	2.9	\$444		\$281		\$365	11.1	3.6	42%
NO0063	4.3	\$433		\$253		\$345	11.2	3.3	68%
NO0064	2.4	\$350	\$300	\$300		\$332	11.9	3.0	43%
Average	3.1	\$389	\$292	\$252	\$269	\$342	11.5	3.1	50%
Top 25%*	3.4	\$366				\$329	11.5	3.0	53%

TABLE B4

Variable costs - North

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
NO0012	\$0.15	\$0.17	\$0.04	\$0.06	\$0.12	\$0.54	\$0.39	\$0.73	\$0.45
NO0014	\$0.12	\$0.16	\$0.04	\$0.11	\$0.08	\$0.50	\$0.28	\$0.02	\$0.01
NO0015	\$0.18	\$0.10	\$0.03	\$0.12	\$0.07	\$0.49	\$0.13	\$0.66	\$0.23
NO0020	\$0.19	\$0.13	\$0.09	\$0.06	\$0.05	\$0.53	\$0.33	\$0.00	\$0.12
NO0022	\$0.10	\$0.10	\$0.01	\$0.11	\$0.03	\$0.35	\$0.17	\$0.68	\$0.11
NO0023	\$0.13	\$0.11	\$0.04	\$0.09	\$0.04	\$0.40	\$0.34	\$0.45	\$0.05
NO0039	\$0.08	\$0.22	\$0.03	\$0.07	\$0.09	\$0.49	\$0.12	\$0.84	\$0.04
NO0040	\$0.09	\$0.15	\$0.04	\$0.09	\$0.06	\$0.43	\$0.04	\$0.53	\$0.20
NO0041	\$0.17	\$0.17	\$0.00	\$0.12	\$0.07	\$0.53	\$0.29	\$0.69	\$0.18
NO0043	\$0.17	\$0.17	\$0.05	\$0.13	\$0.09	\$0.61	\$0.05	\$0.93	\$0.01
NO0044	\$0.16	\$0.12	\$0.07	\$0.07	\$0.07	\$0.47	\$0.36	\$1.26	\$0.10
NO0045	\$0.07	\$0.16	\$0.04	\$0.10	\$0.06	\$0.42	\$0.16	\$1.29	\$0.22
NO0046	\$0.06	\$0.08	\$0.01	\$0.14	\$0.05	\$0.35	\$0.15	\$0.70	\$0.51
NO0048	\$0.08	\$0.05	\$0.01	\$0.10	\$0.05	\$0.28	\$0.26	\$0.36	\$0.25
NO0049	\$0.09	\$0.12	\$0.08	\$0.10	\$0.04	\$0.44	\$0.19	\$1.77	\$0.15
NO0051	\$0.09	\$0.12	\$0.04	\$0.13	\$0.04	\$0.42	\$0.38	\$0.32	\$0.50
NO0053	\$0.11	\$0.10	\$0.00	\$0.06	\$0.09	\$0.36	\$0.09	\$0.51	\$0.01
NO0054	\$0.28	\$0.18	\$0.01	\$0.05	\$0.06	\$0.59	\$0.28	\$0.15	\$0.18
NO0056	\$0.16	\$0.19	\$0.03	\$0.08	\$0.05	\$0.51	\$0.21	\$1.08	\$0.14
NO0059	\$0.07	\$0.06	\$0.02	\$0.11	\$0.14	\$0.40	\$0.05	\$0.98	\$0.08
NO0060	\$0.15	\$0.17	\$0.02	\$0.13	\$0.01	\$0.48	\$0.29	\$0.28	\$0.05
NO0061	\$0.13	\$0.13	\$0.03	\$0.10	\$0.11	\$0.48	\$0.24	\$0.69	\$0.06
NO0062	\$0.11	\$0.11	\$0.02	\$0.15	\$0.06	\$0.45	\$0.13	\$0.49	\$0.31
NO0063	\$0.11	\$0.24	\$0.00	\$0.17	\$0.04	\$0.56	\$0.36	\$0.23	\$0.08
NO0064	\$0.13	\$0.24	\$0.00	\$0.24	\$0.18	\$0.80	\$0.20	\$1.08	\$0.07
Average	\$0.13	\$0.14	\$0.03	\$0.11	\$0.07	\$0.47	\$0.22	\$0.67	\$0.16
Top 25%*	\$0.17	\$0.14	\$0.04	\$0.08	\$0.05	\$0.47	\$0.28	\$0.44	\$0.08

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	\$0.11	\$0.29	\$0.01	\$0.28	\$1.61	\$0.12	\$4.00	\$4.54
NO0014	\$0.26	\$0.18	\$0.05	\$0.92	\$1.29	\$0.00	\$2.99	\$3.50
NO0015	\$0.12	\$0.06	\$0.03	\$0.63	\$1.44	\$0.00	\$3.30	\$3.79
NO0020	\$0.03	\$0.14	\$0.12	\$0.27	\$1.51	\$0.00	\$2.53	\$3.06
NO0022	\$0.05	\$0.24	\$0.04	\$0.35	\$1.48	\$0.00	\$3.12	\$3.47
NO0023	\$0.07	\$0.34	\$0.00	\$0.74	\$1.25	\$0.11	\$3.35	\$3.76
NO0039	\$0.07	\$0.10	\$0.00	\$1.73	\$1.36	\$0.25	\$4.50	\$4.99
NO0040	\$0.07	\$0.24	\$0.00	\$0.84	\$1.68	\$0.20	\$3.80	\$4.23
NO0041	\$0.08	\$0.19	\$0.08	\$0.61	\$1.81	\$0.07	\$4.01	\$4.54
NO0043	\$0.17	\$0.07	\$0.00	\$0.78	\$1.85	\$0.00	\$3.86	\$4.47
NO0044	\$0.04	\$0.17	\$0.00	\$0.80	\$1.12	\$0.11	\$3.95	\$4.43
NO0045	\$0.06	\$0.24	\$0.00	\$0.55	\$1.75	\$0.10	\$4.37	\$4.79
NO0046	\$0.08	\$0.14	\$0.02	\$0.63	\$0.72	\$0.13	\$3.07	\$3.42
NO0048	\$0.04	\$0.33	\$0.00	\$0.41	\$1.05	\$0.23	\$2.93	\$3.21
NO0049	\$0.04	\$0.09	\$0.06	\$0.18	\$1.12	\$0.23	\$3.84	\$4.28
NO0051	\$0.14	\$0.24	\$0.12	\$0.00	\$1.07	\$0.20	\$2.98	\$3.39
NO0053	\$0.01	\$0.14	\$0.01	\$0.73	\$1.25	\$0.43	\$3.18	\$3.54
NO0054	\$0.07	\$0.31	\$0.02	\$0.69	\$1.78	\$0.06	\$3.55	\$4.14
NO0056	\$0.10	\$0.25	\$0.01	\$0.49	\$1.78	\$0.00	\$4.06	\$4.56
NO0059	\$0.06	\$0.28	\$0.08	\$1.28	\$1.74	\$0.00	\$4.55	\$4.95
NO0060	\$0.24	\$0.13	\$0.00	\$0.58	\$1.33	\$0.26	\$3.15	\$3.63
NO0061	\$0.12	\$0.18	\$0.19	\$0.16	\$0.84	\$0.00	\$2.48	\$2.97
NO0062	\$0.09	\$0.28	\$0.05	\$0.82	\$1.34	\$0.09	\$3.59	\$4.04
NO0063	\$0.06	\$0.06	\$0.00	\$1.38	\$2.08	\$0.35	\$4.61	\$5.17
NO0064	\$0.11	\$0.30	\$0.12	\$0.61	\$1.25	\$0.20	\$3.93	\$4.73
Average	\$0.09	\$0.20	\$0.04	\$0.66	\$1.42	\$0.13	\$3.59	\$4.06
Top 25%*	\$0.08	\$0.20	\$0.03	\$0.63	\$1.37	\$0.16	\$3.28	\$3.76

TABLE B5
Overhead costs - North

Farm number	Rates	Registration and insurance	Farm insurance	Repairs and maintenance	Bank charges	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	\$/ KG MS	\$/ KG MS
NO0012	\$0.03	\$0.01	\$0.00	\$0.20	\$0.01	\$0.13	\$0.97	\$1.35	\$0.35	\$0.00	\$1.70
NO0014	\$0.06	\$0.04	\$0.06	\$0.41	\$0.01	\$0.12	\$0.99	\$1.68	\$0.67	\$0.44	\$2.80
NO0015	\$0.06	\$0.04	\$0.03	\$0.34	\$0.00	\$0.11	\$0.63	\$1.22	\$0.09	\$0.43	\$1.74
NO0020	\$0.06	\$0.02	\$0.03	\$0.21	\$0.00	\$0.07	\$0.45	\$0.84	\$0.14	\$0.60	\$1.59
NO0022	\$0.07	\$0.03	\$0.05	\$0.36	\$0.01	\$0.14	\$0.50	\$1.14	\$0.11	\$0.64	\$1.90
NO0023	\$0.06	\$0.01	\$0.04	\$0.27	\$0.01	\$0.04	\$0.65	\$1.09	\$0.15	\$0.43	\$1.67
NO0039	\$0.02	\$0.01	\$0.05	\$0.27	\$0.01	\$0.06	\$0.50	\$0.93	\$0.14	\$0.69	\$1.76
NO0040	\$0.03	\$0.00	\$0.07	\$0.19	\$0.00	\$0.08	\$0.02	\$0.40	\$0.41	\$1.40	\$2.20
NO0041	\$0.03	\$0.02	\$0.03	\$0.30	\$0.01	\$0.09	\$0.62	\$1.08	\$0.19	\$0.64	\$1.92
NO0043	\$0.05	\$0.05	\$0.15	\$0.32	\$0.02	\$0.21	\$0.18	\$0.98	\$0.47	\$1.57	\$3.01
NO0044	\$0.03	\$0.01	\$0.05	\$0.19	\$0.00	\$0.04	\$0.42	\$0.74	\$0.11	\$0.52	\$1.37
NO0045	\$0.04	\$0.02	\$0.02	\$0.25	\$0.02	\$0.08	\$0.62	\$1.05	\$0.11	\$0.66	\$1.83
NO0046	\$0.04	\$0.01	\$0.04	\$0.19	\$0.01	\$0.12	\$0.68	\$1.09	\$0.16	\$0.57	\$1.82
NO0048	\$0.05	\$0.02	\$0.06	\$0.14	\$0.01	\$0.04	\$0.02	\$0.35	\$0.19	\$0.84	\$1.38
NO0049	\$0.05	\$0.00	\$0.06	\$0.43	\$0.12	\$0.08	\$0.35	\$1.09	\$0.12	\$0.54	\$1.76
NO0051	\$0.12	\$0.12	\$0.00	\$0.40	\$0.00	\$0.05	\$0.42	\$1.11	\$0.41	\$0.66	\$2.18
NO0053	\$0.02	\$0.04	\$0.04	\$0.40	\$0.01	\$0.05	\$0.07	\$0.63	\$0.17	\$0.70	\$1.50
NO0054	\$0.01	\$0.01	\$0.01	\$0.29	\$0.00	\$0.16	\$0.91	\$1.39	\$0.16	\$0.00	\$1.55
NO0056	\$0.06	\$0.01	\$0.09	\$0.36	\$0.00	\$0.13	\$0.30	\$0.95	\$0.10	\$1.07	\$2.12
NO0059	\$0.03	\$0.01	\$0.03	\$0.09	\$0.00	\$0.12	\$0.41	\$0.70	\$0.16	\$0.65	\$1.51
NO0060	\$0.04	\$0.01	\$0.09	\$0.21	\$0.01	\$0.12	\$0.50	\$0.97	\$0.28	\$1.02	\$2.27
NO0061	\$0.07	\$0.03	\$0.03	\$0.16	\$0.15	\$0.13	\$0.71	\$1.29	\$0.21	\$0.45	\$1.95
NO0062	\$0.02	\$0.01	\$0.02	\$0.58	\$0.05	\$0.06	\$0.32	\$1.07	\$0.07	\$0.54	\$1.67
NO0063	\$0.03	\$0.01	\$0.09	\$0.26	\$0.00	\$0.08	\$0.48	\$0.94	\$0.20	\$0.91	\$2.05
NO0064	\$0.03	\$0.02	\$0.06	\$0.41	\$0.00	\$0.14	\$0.66	\$1.31	\$0.06	\$0.62	\$1.99
Average	\$0.04	\$0.02	\$0.05	\$0.29	\$0.02	\$0.10	\$0.49	\$1.02	\$0.21	\$0.66	\$1.89
Top 25%*	\$0.03	\$0.02	\$0.04	\$0.26	\$0.00	\$0.08	\$0.50	\$0.94	\$0.17	\$0.55	\$1.66

TABLE B6

Variable costs % - North

Percentage of total farm costs

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
NO0012	2.5%	2.7%	0.6%	1.0%	2.0%	8.7%	6.2%	3.1%	7.3%
NO0014	1.9%	2.6%	0.6%	1.7%	1.3%	8.0%	4.4%	0.3%	0.1%
NO0015	3.2%	1.7%	0.5%	2.1%	1.3%	8.8%	2.4%	6.0%	4.2%
NO0020	4.2%	2.9%	1.9%	1.3%	1.2%	11.5%	7.2%	0.0%	2.6%
NO0022	1.9%	1.8%	0.2%	2.0%	0.6%	6.5%	3.2%	7.0%	2.1%
NO0023	2.4%	2.0%	0.7%	1.6%	0.7%	7.5%	6.4%	3.5%	0.9%
NO0039	1.1%	3.2%	0.4%	1.1%	1.4%	7.2%	1.8%	2.5%	0.6%
NO0040	1.5%	2.3%	0.6%	1.4%	1.0%	6.7%	0.7%	2.9%	3.1%
NO0041	2.6%	2.6%	0.0%	1.9%	1.1%	8.2%	4.6%	4.8%	2.8%
NO0043	2.2%	2.3%	0.7%	1.8%	1.2%	8.2%	0.6%	5.3%	0.2%
NO0044	2.7%	2.0%	1.1%	1.1%	1.1%	8.1%	6.1%	3.2%	1.7%
NO0045	1.1%	2.4%	0.5%	1.4%	0.9%	6.4%	2.5%	4.3%	3.3%
NO0046	1.2%	1.6%	0.2%	2.6%	0.9%	6.6%	2.8%	3.6%	9.7%
NO0048	1.6%	1.1%	0.2%	2.1%	1.1%	6.1%	5.8%	4.8%	5.5%
NO0049	1.5%	2.1%	1.4%	1.7%	0.6%	7.2%	3.1%	3.4%	2.5%
NO0051	1.6%	2.1%	0.7%	2.3%	0.8%	7.5%	6.9%	5.7%	9.0%
NO0053	2.3%	2.0%	0.0%	1.2%	1.7%	7.2%	1.8%	3.3%	0.1%
NO0054	4.9%	3.2%	0.2%	1.0%	1.0%	10.4%	4.9%	2.6%	3.1%
NO0056	2.4%	2.8%	0.5%	1.2%	0.8%	7.6%	3.1%	8.2%	2.1%
NO0059	1.2%	0.9%	0.3%	1.7%	2.1%	6.1%	0.8%	3.4%	1.2%
NO0060	2.5%	2.8%	0.4%	2.1%	0.2%	8.1%	4.9%	0.6%	0.8%
NO0061	2.6%	2.6%	0.5%	2.0%	2.2%	9.8%	5.0%	14.1%	1.3%
NO0062	1.9%	1.9%	0.3%	2.6%	1.1%	7.8%	2.3%	3.7%	5.4%
NO0063	1.5%	3.3%	0.1%	2.3%	0.6%	7.7%	5.0%	2.3%	1.1%
NO0064	2.0%	3.6%	0.0%	3.6%	2.8%	11.9%	3.0%	3.8%	1.1%
Average	2.2%	2.3%	0.5%	1.8%	1.2%	8.0%	3.8%	4.1%	2.9%
Top 25%*	3.2%	2.5%	0.7%	1.4%	1.0%	8.8%	5.2%	2.2%	1.5%

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	1.7%	4.7%	0.2%	4.6%	25.8%	2.0%	64.0%	72.7%
NO0014	4.1%	2.8%	0.8%	14.7%	20.4%	0.0%	47.5%	55.5%
NO0015	2.2%	1.0%	0.6%	11.3%	26.1%	0.0%	59.8%	68.6%
NO0020	0.6%	3.1%	2.6%	5.7%	32.5%	0.0%	54.3%	65.9%
NO0022	1.0%	4.5%	0.7%	6.5%	27.6%	0.0%	58.2%	64.7%
NO0023	1.3%	6.2%	0.0%	13.7%	23.0%	2.1%	61.8%	69.2%
NO0039	1.0%	1.4%	0.0%	25.6%	20.2%	3.7%	66.7%	73.9%
NO0040	1.1%	3.7%	0.0%	13.0%	26.1%	3.1%	59.1%	65.8%
NO0041	1.3%	3.0%	1.2%	9.5%	28.0%	1.1%	62.1%	70.3%
NO0043	2.3%	0.9%	0.0%	10.4%	24.7%	0.0%	51.5%	59.7%
NO0044	0.6%	2.9%	0.0%	13.7%	19.3%	2.0%	68.2%	76.3%
NO0045	0.9%	3.7%	0.0%	8.2%	26.5%	1.4%	66.0%	72.4%
NO0046	1.5%	2.7%	0.3%	11.9%	13.8%	2.5%	58.7%	65.2%
NO0048	0.8%	7.1%	0.0%	8.9%	22.8%	4.9%	63.7%	69.9%
NO0049	0.7%	1.6%	1.1%	3.0%	18.6%	3.8%	63.7%	70.9%
NO0051	2.6%	4.3%	2.1%	0.0%	19.2%	3.5%	53.4%	60.9%
NO0053	0.2%	2.7%	0.2%	14.5%	24.9%	8.6%	63.0%	70.3%
NO0054	1.2%	5.4%	0.4%	12.2%	31.4%	1.1%	62.4%	72.8%
NO0056	1.5%	3.8%	0.2%	7.3%	26.6%	0.0%	60.7%	68.2%
NO0059	0.9%	4.3%	1.3%	19.9%	26.9%	0.0%	70.5%	76.6%
NO0060	4.1%	2.2%	0.0%	9.8%	22.5%	4.4%	53.4%	61.5%
NO0061	2.4%	3.6%	3.8%	3.2%	17.1%	0.0%	50.5%	60.4%
NO0062	1.5%	4.8%	0.9%	14.4%	23.5%	1.5%	62.9%	70.7%
NO0063	0.8%	0.9%	0.0%	19.1%	28.9%	4.9%	63.9%	71.6%
NO0064	1.6%	4.4%	1.8%	9.1%	18.6%	3.0%	58.5%	70.4%
Average	1.5%	3.4%	0.7%	10.8%	23.8%	2.1%	60.2%	68.2%
Top 25%*	1.3%	3.8%	0.5%	11.6%	25.6%	3.0%	60.5%	69.3%

TABLE B7

Overhead costs % - North

Percentage of total farm costs

Farm number	Rates	Registration and insurance	Farm insurance	Repairs and maintenance	Bank charges	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	% OF COSTS	% OF COSTS
NO0012	0.5%	0.1%	0.0%	3.2%	0.1%	2.1%	15.6%	21.6%	5.6%	0.0%	27.3%
NO0014	0.9%	0.7%	0.9%	6.5%	0.2%	1.8%	15.7%	26.7%	10.7%	7.0%	44.5%
NO0015	1.0%	0.8%	0.6%	6.2%	0.0%	2.0%	11.4%	22.1%	1.5%	7.8%	31.4%
NO0020	1.2%	0.4%	0.6%	4.6%	0.0%	1.6%	9.7%	18.1%	3.1%	13.0%	34.1%
NO0022	1.3%	0.5%	0.8%	6.7%	0.1%	2.6%	9.2%	21.3%	2.1%	12.0%	35.3%
NO0023	1.1%	0.3%	0.7%	5.0%	0.1%	0.8%	12.0%	20.0%	2.8%	7.9%	30.8%
NO0039	0.3%	0.2%	0.8%	4.0%	0.1%	0.9%	7.4%	13.7%	2.1%	10.2%	26.1%
NO0040	0.5%	0.1%	1.0%	3.0%	0.0%	1.3%	0.3%	6.2%	6.3%	21.7%	34.2%
NO0041	0.4%	0.4%	0.4%	4.6%	0.1%	1.3%	9.5%	16.8%	3.0%	9.9%	29.7%
NO0043	0.7%	0.7%	2.0%	4.2%	0.3%	2.8%	2.5%	13.1%	6.3%	20.9%	40.3%
NO0044	0.4%	0.2%	0.8%	3.3%	0.1%	0.7%	7.2%	12.7%	1.9%	9.1%	23.7%
NO0045	0.6%	0.3%	0.4%	3.8%	0.2%	1.2%	9.3%	15.8%	1.7%	10.0%	27.6%
NO0046	0.8%	0.2%	0.8%	3.6%	0.2%	2.2%	13.0%	20.9%	3.0%	10.9%	34.8%
NO0048	1.1%	0.4%	1.3%	3.1%	0.3%	1.0%	0.5%	7.6%	4.2%	18.4%	30.1%
NO0049	0.8%	0.0%	1.1%	7.2%	1.9%	1.2%	5.8%	18.1%	2.0%	9.0%	29.1%
NO0051	2.1%	2.2%	0.0%	7.2%	0.0%	1.0%	7.4%	19.9%	7.4%	11.9%	39.1%
NO0053	0.4%	0.8%	0.9%	8.0%	0.1%	1.0%	1.3%	12.6%	3.3%	13.8%	29.7%
NO0054	0.2%	0.1%	0.2%	5.1%	0.0%	2.7%	16.0%	24.4%	2.8%	0.0%	27.2%
NO0056	0.9%	0.2%	1.3%	5.3%	0.1%	1.9%	4.5%	14.2%	1.5%	16.0%	31.8%
NO0059	0.5%	0.1%	0.5%	1.4%	0.0%	1.8%	6.4%	10.8%	2.4%	10.1%	23.4%
NO0060	0.6%	0.1%	1.6%	3.6%	0.1%	2.0%	8.4%	16.5%	4.7%	17.4%	38.5%
NO0061	1.3%	0.6%	0.7%	3.3%	3.1%	2.7%	14.5%	26.2%	4.3%	9.2%	39.6%
NO0062	0.4%	0.1%	0.3%	10.1%	0.9%	1.1%	5.7%	18.6%	1.2%	9.4%	29.3%
NO0063	0.4%	0.1%	1.2%	3.5%	0.1%	1.1%	6.6%	13.1%	2.7%	12.6%	28.4%
NO0064	0.4%	0.3%	0.8%	6.0%	0.0%	2.1%	9.8%	19.4%	0.9%	9.3%	29.6%
Average	0.8%	0.4%	0.8%	4.9%	0.3%	1.6%	8.4%	17.2%	3.5%	11.1%	31.8%
Top 25%*	0.7%	0.3%	0.8%	4.9%	0.1%	1.5%	9.1%	17.4%	3.1%	10.2%	30.7%

TABLE B8

Capital structure - North

	FARM ASSETS				OTHER FARM ASSETS (PER USABLE HECTARE)					LIABILITIES		EQUITY	
	Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	Total assets	Liabilities	Liabilities	Equity	Average equity
	\$/HA	\$/COW	\$/HA	\$/COW	\$/HA	\$/HA	\$/HA	\$/HA	\$/HA	\$/HA	\$/COW	\$/HA	%
Average	\$8,180	\$5,122	\$4,556	\$2,730	\$1,573	\$3,516	\$233	\$1,045	\$20,227	\$6,383	\$3,585	\$13,844	66%
Top 25%*	\$10,185	\$5,375	\$4,878	\$2,707	\$1,604	\$3,617	\$289	\$1,625	\$22,385	\$6,078	\$3,580	\$16,307	69%

TABLE B9

Historical data - North

Average farm income, costs and profit per kilogram of milk solids

	INCOME				VARIABLE COSTS							
	Milk income (net)		Gross farm income		Herd costs		Shed costs		Feed costs		Total variable costs	
	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	\$5.75	\$5.48	\$6.79	\$0.21	\$0.26	\$0.17	\$0.21	\$3.60	\$4.46	\$4.03	\$5.00
2007-08	\$6.53	\$7.74	\$7.86	\$9.32	\$0.23	\$0.27	\$0.15	\$0.18	\$4.37	\$5.19	\$4.70	\$5.57
2008-09	\$5.32	\$6.21	\$6.06	\$7.08	\$0.21	\$0.25	\$0.13	\$0.15	\$3.47	\$4.06	\$3.81	\$4.45
2009-10	\$4.46	\$5.05	\$5.19	\$5.89	\$0.23	\$0.26	\$0.15	\$0.17	\$2.71	\$3.08	\$3.09	\$3.51
2010-11	\$5.69	\$6.23	\$6.74	\$7.37	\$0.31	\$0.34	\$0.19	\$0.20	\$2.66	\$2.91	\$3.16	\$3.46
2011-12	\$5.64	\$6.10	\$6.06	\$6.55	\$0.26	\$0.28	\$0.18	\$0.19	\$2.52	\$2.72	\$2.95	\$3.19
2012-13	\$5.05	\$5.33	\$5.53	\$5.84	\$0.25	\$0.27	\$0.24	\$0.25	\$2.85	\$3.00	\$3.34	\$3.52
2013-14	\$6.83	\$7.00	\$7.46	\$7.65	\$0.27	\$0.28	\$0.21	\$0.21	\$3.13	\$3.21	\$3.61	\$3.70
2014-15	\$6.09	\$6.15	\$6.62	\$6.69	\$0.30	\$0.30	\$0.19	\$0.19	\$3.20	\$3.23	\$3.69	\$3.72
2015-16	\$5.46	\$5.46	\$5.98	\$5.98	\$0.30	\$0.30	\$0.18	\$0.18	\$3.59	\$3.59	\$4.06	\$4.06
Average		\$6.10		\$6.92		\$0.28		\$0.19		\$3.54		\$4.02

	OVERHEAD COSTS						PROFIT							
	Cash overhead costs		Non-cash overhead costs		Total overhead costs		Earnings before interest & tax		Interest & lease charges		Net farm income		RETURN ON ASSETS	RETURN ON EQUITY
	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)		
2006-07	\$0.82	\$1.01	\$1.10	\$1.37	\$1.92	\$2.38	-\$0.47	-\$0.58	\$0.57	\$0.70	-\$1.04	-\$1.28	-1.6%	-6.9%
2007-08	\$0.78	\$0.93	\$0.90	\$1.07	\$1.57	\$1.87	\$1.59	\$1.88	\$0.55	\$0.65	\$1.04	\$1.23	7.9%	7.6%
2008-09	\$0.74	\$0.87	\$0.82	\$0.96	\$1.56	\$1.83	\$0.59	\$0.68	\$0.54	\$0.63	\$0.05	\$0.06	2.7%	-0.7%
2009-10	\$0.82	\$0.93	\$1.01	\$1.15	\$1.83	\$2.08	\$0.20	\$0.23	\$0.51	\$0.58	-\$0.31	-\$0.36	0.8%	-3.1%
2010-11	\$1.01	\$1.11	\$1.05	\$1.15	\$2.06	\$2.26	\$1.52	\$1.66	\$0.65	\$0.71	\$0.87	\$0.95	7.0%	7.6%
2011-12	\$0.90	\$0.98	\$0.85	\$0.92	\$1.75	\$1.89	\$1.36	\$1.47	\$0.57	\$0.62	\$0.78	\$0.85	7.6%	8.4%
2012-13	\$0.94	\$0.99	\$0.87	\$0.92	\$1.81	\$1.91	\$0.39	\$0.41	\$0.58	\$0.61	-\$0.19	-\$0.20	2.2%	-2.9%
2013-14	\$0.99	\$1.01	\$0.85	\$0.87	\$1.83	\$1.88	\$2.02	\$2.07	\$0.56	\$0.57	\$1.46	\$1.50	11.3%	14.7%
2014-15	\$1.03	\$1.04	\$0.81	\$0.82	\$1.84	\$1.86	\$1.10	\$1.11	\$0.50	\$0.51	\$0.59	\$0.60	6.1%	4.9%
2015-16	\$1.02	\$1.02	\$0.87	\$0.87	\$1.89	\$1.89	\$0.03	\$0.03	\$0.46	\$0.46	-\$0.43	-\$0.43	-0.1%	-4.4%
Average		\$0.99		\$1.01		\$1.98		\$0.90		\$0.61		\$0.29	4.4%	2.5%

Note: 'Real' dollar values are the nominal values converted to 2015-16 dollar equivalents by the consumer price index (CPI) to allow for inflation.

TABLE B10

Historical data - North

Average farm physical information

	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Estimated grazed pasture*	Estimated conserved feed*	Home grown feed as % of ME consumed	Concentrate price	
	HA	HA	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	\$392
2007-08	294	258	490	321	1.1	511	559	3.1	0.7	47%	\$398	\$472
2008-09	245	195	528	322	1.6	500	784	4.3	0.7	46%	\$347	\$406
2009-10	216	195	811	282	1.6	515	806	5.0	0.6	51%	\$256	\$290
2010-11	196	171	1,089	261	1.5	495	762	5.1	2.6	58%	\$286	\$313
2011-12	193	128	1,035	304	1.9	516	957	7.1	1.1	53%	\$267	\$289
2012-13	193	123	901	300	1.8	518	961	8.1	1.4	55%	\$311	\$328
2013-14	210	130	986	332	1.9	522	995	7.6	1.6	57%	\$366	\$376
2014-15	222	135	856	356	1.9	537	1020	7.6	1.2	54%	\$387	\$391
2015-16	234	142	926	367	1.9	527	992	7.1	1.1	50%	\$389	\$389
Average	234	181	816	321	1.7	507	847	5.9	1.1	52%		\$356

* 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	Return on equity (incl. capital apprec.)
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	%	\$/ KG MS	%	\$/ KG MS	% OF INCOME	\$/ KG MS	%	%
SW0001	\$5.63	\$0.51	\$6.14	\$3.39	\$2.09	62%	\$0.66	2.0%	\$1.03	16.7%	-\$0.37	-2.4%	-2.7%
SW0007	\$4.59	\$0.10	\$4.69	\$3.20	\$2.63	55%	-\$1.14	-7.2%	\$0.00	0.0%	-\$1.14	-7.2%	-7.1%
SW0008	\$5.93	\$0.74	\$6.68	\$3.58	\$1.70	68%	\$1.39	4.8%	\$0.93	13.9%	\$0.47	2.7%	4.8%
SW0009	\$5.30	\$0.64	\$5.94	\$3.57	\$2.36	60%	\$0.01	0.1%	\$0.53	8.9%	-\$0.52	-3.4%	-3.4%
SW0011	\$6.09	\$0.41	\$6.50	\$5.39	\$1.85	74%	-\$0.75	-3.2%	\$0.58	8.9%	-\$1.33	-8.3%	-6.1%
SW0014	\$4.89	\$0.34	\$5.23	\$3.38	\$1.98	63%	-\$0.13	-0.5%	\$0.44	8.4%	-\$0.57	-3.9%	-3.9%
SW0020	\$5.50	\$0.97	\$6.48	\$3.75	\$2.63	59%	\$0.10	0.3%	\$1.06	16.3%	-\$0.96	-10.4%	-11.9%
SW0022	\$5.61	\$0.86	\$6.47	\$4.58	\$2.06	69%	-\$0.17	-0.6%	\$1.09	16.9%	-\$1.27	-6.0%	-6.1%
SW0025	\$5.48	\$1.11	\$6.59	\$3.09	\$1.95	61%	\$1.55	4.9%	\$0.49	7.4%	\$1.06	5.4%	5.0%
SW0027	\$5.11	\$0.37	\$5.48	\$4.36	\$2.08	68%	-\$0.96	-4.6%	\$0.44	8.0%	-\$1.40	-10.2%	-10.1%
SW0030	\$6.03	-\$0.07	\$5.96	\$3.80	\$2.09	64%	\$0.06	0.2%	\$0.71	12.0%	-\$0.65	-4.9%	-14.1%
SW0032	\$5.17	\$0.32	\$5.49	\$3.38	\$2.78	55%	-\$0.67	-2.1%	\$0.63	11.4%	-\$1.30	-8.1%	-9.7%
SW0033	\$5.53	\$0.13	\$5.66	\$3.26	\$3.28	50%	-\$0.87	-1.6%	\$0.16	2.8%	-\$1.03	-2.3%	48.8%
SW0035	\$5.91	-\$0.01	\$5.90	\$2.87	\$1.74	62%	\$1.29	5.4%	\$1.06	17.9%	\$0.24	7.1%	6.8%
SW0036	\$5.17	\$0.69	\$5.86	\$4.17	\$2.63	61%	-\$0.93	-2.1%	\$0.29	5.0%	-\$1.22	-3.3%	-8.7%
SW0037	\$5.88	\$0.65	\$6.53	\$3.42	\$2.56	57%	\$0.55	2.5%	\$0.44	6.8%	\$0.10	1.0%	-0.1%
SW0038	\$5.31	\$0.53	\$5.84	\$3.91	\$2.52	61%	-\$0.59	-2.6%	\$0.24	4.1%	-\$0.83	-4.6%	-5.2%
SW0040	\$5.16	\$0.18	\$5.34	\$3.20	\$2.00	62%	\$0.14	0.6%	\$0.98	18.3%	-\$0.84	-8.0%	-7.0%
SW0042	\$5.28	\$0.45	\$5.73	\$3.86	\$1.97	66%	-\$0.10	-0.4%	\$0.34	5.9%	-\$0.44	-3.7%	-3.6%
SW0043	\$5.23	\$0.14	\$5.37	\$2.70	\$2.50	52%	\$0.18	0.7%	\$0.26	4.9%	-\$0.09	-0.5%	-0.5%
SW0044	\$5.43	\$0.39	\$5.82	\$3.79	\$1.87	67%	\$0.17	0.6%	\$0.62	10.6%	-\$0.45	-2.7%	-2.6%
SW0045	\$5.87	\$1.16	\$7.03	\$3.10	\$2.34	57%	\$1.60	6.3%	\$0.53	7.5%	\$1.07	5.7%	5.6%
SW0046	\$5.51	\$0.37	\$5.88	\$3.43	\$1.45	70%	\$0.99	4.1%	\$0.88	15.0%	\$0.11	3.0%	3.1%
SW0047	\$5.60	\$0.18	\$5.78	\$3.25	\$1.65	66%	\$0.88	3.6%	\$1.06	18.3%	-\$0.18	-2.5%	-3.0%
SW0049	\$5.51	\$0.79	\$6.29	\$2.87	\$2.08	58%	\$1.35	3.2%	\$2.14	33.9%	-\$0.79	-3.0%	-3.0%
Average	\$5.47	\$0.48	\$5.95	\$3.57	\$2.19	62%	\$0.18	0.6%	\$0.68	11.2%	-\$0.49	-2.8%	-1.4%
Top 25%*	\$5.72	\$0.59	\$6.31	\$3.22	\$1.81	64%	\$1.28	4.8%	\$0.82	13.3%	\$0.46	3.6%	3.7%

* 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	458	250	586	454	1.0	555	550	3.8%	3.3%
SW0007	116	116	448	109	0.9	466	437	5.4%	4.1%
SW0008	607	494	743	890	1.5	532	780	4.0%	3.3%
SW0009	160	160	587	260	1.6	537	873	3.8%	3.1%
SW0011	570	450	618	950	1.7	494	823	4.0%	3.5%
SW0014	211	171	757	242	1.1	585	671	3.7%	3.2%
SW0020	299	161	757	300	1.0	567	569	3.8%	3.3%
SW0022	759	410	491	640	0.8	577	486	3.7%	3.6%
SW0025	331	140	567	280	0.8	600	508	4.2%	3.4%
SW0027	125	99	789	180	1.4	485	701	5.3%	3.8%
SW0030	264	180	598	382	1.4	466	675	4.1%	3.5%
SW0032	170	130	602	189	1.1	448	498	5.2%	4.0%
SW0033	146	56	618	101	0.7	368	255	4.4%	3.5%
SW0035	199	148	751	249	1.3	560	700	3.8%	3.3%
SW0036	333	220	556	240	0.7	398	287	4.4%	3.5%
SW0037	407	252	790	555	1.4	601	820	4.1%	3.5%
SW0038	100	80	722	154	1.5	580	893	4.1%	3.4%
SW0040	357	244	533	451	1.3	545	690	3.8%	3.2%
SW0042	157	157	797	220	1.4	499	699	3.9%	3.2%
SW0043	129	86	1,240	160	1.2	513	636	4.5%	3.5%
SW0044	152	152	751	157	1.0	492	509	3.7%	3.2%
SW0045	565	505	540	650	1.2	604	695	3.6%	3.4%
SW0046	423	270	564	439	1.0	534	554	4.1%	3.4%
SW0047	508	305	1,071	740	1.5	552	803	4.1%	3.5%
SW0049	451	305	761	455	1.0	513	518	4.2%	3.4%
Average	320	222	689	378	1.2	523	625	4.2%	3.4%
Top 25%*	439	310	706	541	1.2	564	673	4.0%	3.4%

TABLE C2

Physical information - South West

(Continued)

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	2.8	3.1	55%	69.2	3.5	36.7	2.5	115	63,587
SW0007	1.1	0.0	23%	0.0	0.0	0.0	0.0	56	26,293
SW0008	2.5	3.9	55%	125.2	17.6	60.5	4.5	122	64,893
SW0009	4.2	2.6	55%	175.4	5.5	31.3	6.9	75	40,290
SW0011	2.9	1.6	41%	141.2	8.0	20.5	6.4	113	55,594
SW0014	3.6	1.8	54%	148.6	18.6	53.4	31.5	88	51,558
SW0020	4.3	1.9	52%	125.9	8.2	25.3	14.9	68	38,446
SW0022	0.9	2.0	31%	95.5	8.4	4.7	9.7	127	73,374
SW0025	5.5	0.9	67%	81.2	17.2	36.4	6.8	96	57,573
SW0027	2.5	1.3	38%	113.0	25.0	78.8	31.1	111	53,874
SW0030	4.5	0.2	55%	108.2	14.8	78.4	11.8	117	54,649
SW0032	3.3	0.8	53%	36.0	16.0	43.2	6.2	78	34,773
SW0033	4.1	0.8	56%	38.5	9.5	22.0	11.8	79	29,166
SW0035	5.4	1.8	62%	162.0	20.5	44.5	22.5	110	61,676
SW0036	2.5	0.8	65%	16.8	5.1	8.6	0.8	73	28,904
SW0037	6.4	0.8	53%	108.4	11.6	44.8	17.8	82	49,049
SW0038	3.6	1.4	42%	156.1	25.6	38.5	41.1	77	44,694
SW0040	3.0	2.1	47%	47.9	3.1	10.0	3.8	117	63,638
SW0042	3.7	0.7	44%	119.9	28.7	76.0	30.0	117	58,264
SW0043	4.7	0.9	53%	69.8	7.3	41.7	22.7	73	37,478
SW0044	2.2	0.8	41%	107.9	18.3	35.2	22.8	126	61,839
SW0045	2.2	1.0	57%	162.9	16.6	130.7	31.3	123	74,293
SW0046	4.2	1.9	57%	144.4	14.1	18.0	8.0	167	89,078
SW0047	3.8	1.3	42%	137.1	18.3	33.8	13.6	105	57,817
SW0049	2.3	4.2	72%	55.6	14.7	13.6	1.8	124	63,650
Average	3.4	1.5	51%	101.9	13.5	39.5	14.4	101	53,378
Top 25%*	3.9	1.8	57%	135.5	17.4	54.0	14.5	120	67,555

** on milking area

TABLE C3

Purchased feed - South West

Farm number	Purchased feed per milker	Concentrate price	Silage price	Hay price	Other feed price	Average purchased feed price	Average ME of purchased feed	Average purchased feed price	Percent of total energy imported
	T DM/HD	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	MJ ME/ KG	C/ MJ	% OF ME
SW0001	2.8	\$423	\$133	\$229		\$402	11.7	3.5	45%
SW0007	3.4	\$335	\$200	\$265		\$309	11.9	2.7	77%
SW0008	2.9	\$380		\$251	\$414	\$351	11.8	3.1	45%
SW0009	2.9	\$449		\$271		\$393	11.4	3.6	45%
SW0011	4.1	\$444		\$346	\$1,468	\$434	11.5	4.1	59%
SW0014	3.1	\$437		\$292		\$391	11.8	3.5	46%
SW0020	3.6	\$416	\$357	\$263		\$384	11.9	3.3	48%
SW0022	4.0	\$367		\$334		\$357	12.3	3.0	69%
SW0025	3.1	\$418		\$261		\$367	11.5	3.4	33%
SW0027	3.6	\$444		\$317		\$396	12.0	3.5	62%
SW0030	2.5	\$402		\$300		\$376	11.2	3.5	45%
SW0032	2.6	\$397		\$297		\$375	11.9	3.3	47%
SW0033	2.2	\$422		\$185		\$286	11.6	2.7	44%
SW0035	2.3	\$398		\$306		\$388	12.3	3.2	38%
SW0036	2.1	\$470		\$317	\$159	\$410	11.3	3.8	35%
SW0037	3.4	\$368		\$314		\$364	11.8	3.2	47%
SW0038	3.9	\$420		\$281	\$212	\$372	11.8	3.3	58%
SW0040	3.2	\$419		\$290	\$313	\$375	11.6	3.4	53%
SW0042	3.7	\$427	\$333	\$197		\$363	11.8	3.2	56%
SW0043	2.5	\$357		\$329		\$350	12.7	2.9	47%
SW0044	3.8	\$360		\$302		\$338	11.3	3.2	59%
SW0045	2.6	\$344		\$318		\$342	13.1	2.7	43%
SW0046	2.5	\$334	\$360			\$335	11.9	2.8	43%
SW0047	2.9	\$363		\$306	\$155	\$328	11.3	3.1	58%
SW0049	1.8	\$404		\$271		\$385	12.0	3.3	28%
Average	3.0	\$400	\$277	\$285	\$453	\$367	11.8	3.2	49%
Top 25%*	2.7	\$373				\$352	12.0	3.0	43%

TABLE C4

Variable costs - South West

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
SW0001	\$0.08	\$0.16	\$0.07	\$0.11	\$0.14	\$0.55	\$0.26	\$0.01	\$0.09
SW0007	\$0.11	\$0.13	\$0.00	\$0.13	\$0.08	\$0.44	\$0.00	\$0.00	\$0.00
SW0008	\$0.08	\$0.14	\$0.02	\$0.10	\$0.07	\$0.41	\$0.42	\$0.03	\$0.24
SW0009	\$0.08	\$0.12	\$0.00	\$0.12	\$0.10	\$0.41	\$0.33	\$0.00	\$0.09
SW0011	\$0.19	\$0.15	\$0.02	\$0.12	\$0.12	\$0.60	\$0.41	\$0.00	\$0.13
SW0014	\$0.12	\$0.09	\$0.00	\$0.07	\$0.06	\$0.34	\$0.56	\$0.00	\$0.19
SW0020	\$0.14	\$0.12	\$0.00	\$0.10	\$0.13	\$0.48	\$0.51	\$0.00	\$0.04
SW0022	\$0.08	\$0.15	\$0.13	\$0.10	\$0.15	\$0.61	\$0.44	\$0.00	\$0.24
SW0025	\$0.07	\$0.17	\$0.02	\$0.08	\$0.03	\$0.37	\$0.38	\$0.00	\$0.04
SW0027	\$0.07	\$0.06	\$0.00	\$0.07	\$0.11	\$0.32	\$0.50	\$0.00	\$0.19
SW0030	\$0.08	\$0.10	\$0.00	\$0.08	\$0.10	\$0.37	\$0.51	\$0.12	\$0.08
SW0032	\$0.10	\$0.09	\$0.02	\$0.09	\$0.07	\$0.37	\$0.29	\$0.00	\$0.07
SW0033	\$0.13	\$0.08	\$0.01	\$0.10	\$0.09	\$0.42	\$0.52	\$0.00	\$0.13
SW0035	\$0.10	\$0.07	\$0.00	\$0.12	\$0.07	\$0.37	\$0.59	\$0.00	\$0.10
SW0036	\$0.18	\$0.14	\$0.02	\$0.13	\$0.13	\$0.59	\$0.43	\$0.00	\$0.36
SW0037	\$0.11	\$0.17	\$0.02	\$0.11	\$0.12	\$0.54	\$0.38	\$0.07	\$0.11
SW0038	\$0.10	\$0.21	\$0.03	\$0.07	\$0.08	\$0.48	\$0.38	\$0.00	\$0.18
SW0040	\$0.14	\$0.12	\$0.00	\$0.10	\$0.10	\$0.47	\$0.08	\$0.00	\$0.03
SW0042	\$0.04	\$0.14	\$0.00	\$0.05	\$0.13	\$0.36	\$0.38	\$0.00	\$0.05
SW0043	\$0.09	\$0.03	\$0.02	\$0.13	\$0.06	\$0.34	\$0.40	\$0.00	\$0.04
SW0044	\$0.11	\$0.05	\$0.00	\$0.08	\$0.07	\$0.31	\$0.43	\$0.00	\$0.18
SW0045	\$0.10	\$0.10	\$0.02	\$0.06	\$0.12	\$0.40	\$0.75	\$0.00	\$0.10
SW0046	\$0.16	\$0.12	\$0.02	\$0.09	\$0.06	\$0.45	\$0.71	\$0.00	\$0.25
SW0047	\$0.08	\$0.14	\$0.01	\$0.09	\$0.05	\$0.36	\$0.31	\$0.00	\$0.22
SW0049	\$0.10	\$0.08	\$0.11	\$0.16	\$0.06	\$0.52	\$0.45	\$0.00	\$0.12
Average	\$0.11	\$0.12	\$0.02	\$0.10	\$0.09	\$0.44	\$0.42	\$0.01	\$0.13
Top 25%*	\$0.10	\$0.12	\$0.01	\$0.09	\$0.07	\$0.39	\$0.53	\$0.01	\$0.16

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	\$0.18	\$0.26	\$0.00	\$0.09	\$1.95	\$0.00	\$2.84	\$3.39
SW0007	\$0.05	\$0.00	\$0.01	\$0.62	\$1.71	\$0.35	\$2.76	\$3.20
SW0008	\$0.05	\$0.37	\$0.13	\$0.31	\$1.59	\$0.03	\$3.17	\$3.58
SW0009	\$0.13	\$0.26	\$0.01	\$0.46	\$1.73	\$0.15	\$3.15	\$3.57
SW0011	\$0.00	\$0.16	\$0.01	\$1.13	\$2.48	\$0.48	\$4.79	\$5.39
SW0014	\$0.08	\$0.07	\$0.00	\$0.55	\$1.59	\$0.00	\$3.04	\$3.38
SW0020	\$0.13	\$0.12	\$0.06	\$0.41	\$2.01	\$0.00	\$3.27	\$3.75
SW0022	\$0.10	\$0.34	\$0.29	\$0.70	\$1.86	\$0.00	\$3.97	\$4.58
SW0025	\$0.13	\$0.29	\$0.00	\$0.45	\$1.43	\$0.00	\$2.72	\$3.09
SW0027	\$0.05	\$0.31	\$0.00	\$0.95	\$2.05	\$0.00	\$4.04	\$4.36
SW0030	\$0.11	\$0.31	\$0.11	\$0.43	\$1.60	\$0.17	\$3.43	\$3.80
SW0032	\$0.06	\$0.10	\$0.00	\$0.69	\$1.80	\$0.00	\$3.01	\$3.38
SW0033	\$0.09	\$0.24	\$0.02	\$0.70	\$1.12	\$0.00	\$2.84	\$3.26
SW0035	\$0.05	\$0.16	\$0.02	\$0.13	\$1.46	\$0.00	\$2.50	\$2.87
SW0036	\$0.25	\$0.27	\$0.06	\$0.46	\$1.74	\$0.00	\$3.57	\$4.17
SW0037	\$0.06	\$0.18	\$0.05	\$0.16	\$1.88	\$0.00	\$2.88	\$3.42
SW0038	\$0.08	\$0.22	\$0.00	\$0.54	\$2.03	\$0.00	\$3.43	\$3.91
SW0040	\$0.10	\$0.16	\$0.12	\$0.53	\$1.68	\$0.01	\$2.73	\$3.20
SW0042	\$0.11	\$0.12	\$0.00	\$0.51	\$2.24	\$0.09	\$3.50	\$3.86
SW0043	\$0.07	\$0.07	\$0.04	\$0.40	\$1.36	\$0.00	\$2.36	\$2.70
SW0044	\$0.12	\$0.10	\$0.00	\$0.90	\$1.74	\$0.00	\$3.47	\$3.79
SW0045	\$0.08	\$0.09	\$0.02	\$0.14	\$1.52	\$0.00	\$2.70	\$3.10
SW0046	\$0.08	\$0.14	\$0.08	\$0.09	\$1.50	\$0.13	\$2.99	\$3.43
SW0047	\$0.06	\$0.15	\$0.00	\$0.65	\$1.28	\$0.21	\$2.88	\$3.25
SW0049	\$0.11	\$0.21	\$0.03	\$0.18	\$1.24	\$0.00	\$2.35	\$2.87
Average	\$0.09	\$0.19	\$0.04	\$0.49	\$1.70	\$0.07	\$3.14	\$3.57
Top 25%*	\$0.07	\$0.20	\$0.04	\$0.29	\$1.46	\$0.06	\$2.83	\$3.22

TABLE C5

Overhead costs - South West

Farm number	Rates	Registration and insurance	Farm insurance	Repairs and maintenance	Bank charges	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	\$/ KG MS	\$/ KG MS
SW0001	\$0.04	\$0.06	\$0.07	\$0.39	\$0.00	\$0.09	\$0.44	\$1.09	\$0.55	\$0.45	\$2.09
SW0007	\$0.07	\$0.01	\$0.07	\$0.19	\$0.01	\$0.09	\$1.91	\$2.35	\$0.10	\$0.17	\$2.63
SW0008	\$0.04	\$0.00	\$0.04	\$0.29	\$0.00	\$0.11	\$0.46	\$0.95	\$0.25	\$0.50	\$1.70
SW0009	\$0.07	\$0.01	\$0.04	\$0.28	\$0.01	\$0.08	\$0.00	\$0.48	\$0.22	\$1.67	\$2.36
SW0011	\$0.04	\$0.02	\$0.04	\$0.26	\$0.00	\$0.21	\$1.13	\$1.70	\$0.16	\$0.00	\$1.85
SW0014	\$0.05	\$0.02	\$0.04	\$0.38	\$0.00	\$0.08	\$0.53	\$1.10	\$0.16	\$0.71	\$1.98
SW0020	\$0.04	\$0.01	\$0.07	\$0.48	\$0.00	\$0.12	\$0.55	\$1.27	\$0.37	\$0.99	\$2.63
SW0022	\$0.08	\$0.01	\$0.05	\$0.48	\$0.00	\$0.17	\$0.38	\$1.17	\$0.28	\$0.61	\$2.06
SW0025	\$0.04	\$0.02	\$0.04	\$0.41	\$0.01	\$0.09	\$0.48	\$1.10	\$0.24	\$0.62	\$1.95
SW0027	\$0.07	\$0.03	\$0.09	\$0.31	\$0.01	\$0.12	\$0.07	\$0.69	\$0.20	\$1.19	\$2.08
SW0030	\$0.08	\$0.01	\$0.01	\$0.32	\$0.02	\$0.17	\$0.23	\$0.83	\$0.26	\$1.00	\$2.09
SW0032	\$0.05	\$0.03	\$0.03	\$0.42	\$0.01	\$0.32	\$0.35	\$1.23	\$0.08	\$1.47	\$2.78
SW0033	\$0.11	\$0.04	\$0.19	\$0.09	\$0.00	\$0.12	\$0.11	\$0.65	\$0.37	\$2.26	\$3.28
SW0035	\$0.00	\$0.00	\$0.03	\$0.27	\$0.01	\$0.12	\$0.35	\$0.79	\$0.13	\$0.82	\$1.74
SW0036	\$0.09	\$0.06	\$0.07	\$0.11	\$0.02	\$0.11	\$0.75	\$1.21	\$0.31	\$1.10	\$2.63
SW0037	\$0.06	\$0.03	\$0.05	\$0.80	\$0.00	\$0.04	\$0.73	\$1.69	\$0.37	\$0.49	\$2.56
SW0038	\$0.05	\$0.01	\$0.05	\$0.43	\$0.01	\$0.13	\$0.21	\$0.89	\$0.31	\$1.32	\$2.52
SW0040	\$0.04	\$0.02	\$0.08	\$0.27	\$0.02	\$0.13	\$0.82	\$1.39	\$0.20	\$0.41	\$2.00
SW0042	\$0.06	\$0.03	\$0.03	\$0.32	\$0.02	\$0.06	\$0.61	\$1.12	\$0.18	\$0.66	\$1.97
SW0043	\$0.04	\$0.04	\$0.05	\$0.19	\$0.00	\$0.10	\$0.06	\$0.48	\$0.22	\$1.79	\$2.50
SW0044	\$0.08	\$0.02	\$0.07	\$0.20	\$0.00	\$0.10	\$0.00	\$0.48	\$0.30	\$1.09	\$1.87
SW0045	\$0.03	\$0.00	\$0.04	\$0.24	\$0.03	\$0.62	\$0.50	\$1.47	\$0.51	\$0.36	\$2.34
SW0046	\$0.02	\$0.01	\$0.07	\$0.43	\$0.00	\$0.08	\$0.49	\$1.10	\$0.13	\$0.23	\$1.45
SW0047	\$0.04	\$0.00	\$0.07	\$0.29	\$0.00	\$0.10	\$0.65	\$1.16	\$0.15	\$0.34	\$1.65
SW0049	\$0.05	\$0.02	\$0.06	\$0.42	\$0.00	\$0.15	\$0.29	\$0.99	\$0.37	\$0.72	\$2.08
Average	\$0.05	\$0.02	\$0.06	\$0.33	\$0.01	\$0.14	\$0.48	\$1.10	\$0.26	\$0.84	\$2.19
Top 25%*	\$0.03	\$0.01	\$0.05	\$0.32	\$0.01	\$0.19	\$0.49	\$1.09	\$0.24	\$0.48	\$1.81

TABLE C6

Variable costs % - South West

Percentage of total farm costs

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
SW0001	1.4%	2.8%	1.2%	2.0%	2.6%	10.0%	4.7%	0.1%	1.6%
SW0007	1.8%	2.2%	0.0%	2.2%	1.4%	7.6%	0.0%	0.0%	0.0%
SW0008	1.5%	2.6%	0.3%	2.0%	1.3%	7.8%	8.0%	0.6%	4.5%
SW0009	1.3%	1.9%	0.0%	2.0%	1.7%	6.9%	5.6%	0.0%	1.4%
SW0011	2.7%	2.1%	0.3%	1.6%	1.7%	8.3%	5.7%	0.0%	1.8%
SW0014	2.3%	1.6%	0.0%	1.3%	1.1%	6.3%	10.5%	0.0%	3.6%
SW0020	2.2%	1.8%	0.0%	1.5%	2.0%	7.6%	8.0%	0.0%	0.6%
SW0022	1.1%	2.2%	2.0%	1.5%	2.3%	9.2%	6.6%	0.0%	3.7%
SW0025	1.5%	3.4%	0.4%	1.5%	0.6%	7.4%	7.6%	0.0%	0.7%
SW0027	1.1%	1.0%	0.0%	1.1%	1.8%	5.0%	7.8%	0.0%	2.9%
SW0030	1.4%	1.7%	0.0%	1.3%	1.8%	6.2%	8.6%	2.1%	1.3%
SW0032	1.6%	1.5%	0.4%	1.4%	1.1%	6.1%	4.7%	0.0%	1.2%
SW0033	2.1%	1.2%	0.2%	1.5%	1.4%	6.4%	8.0%	0.0%	2.1%
SW0035	2.3%	1.6%	0.0%	2.6%	1.5%	7.9%	12.7%	0.0%	2.2%
SW0036	2.6%	2.1%	0.2%	2.0%	1.9%	8.7%	6.3%	0.0%	5.3%
SW0037	1.9%	2.8%	0.4%	1.9%	2.0%	9.0%	6.4%	1.1%	1.8%
SW0038	1.5%	3.2%	0.4%	1.0%	1.3%	7.5%	5.9%	0.0%	2.8%
SW0040	2.8%	2.4%	0.1%	1.9%	2.0%	9.1%	1.5%	0.0%	0.6%
SW0042	0.7%	2.4%	0.0%	0.8%	2.2%	6.2%	6.5%	0.0%	0.9%
SW0043	1.7%	0.7%	0.4%	2.5%	1.2%	6.5%	7.6%	0.0%	0.7%
SW0044	1.9%	0.9%	0.0%	1.5%	1.2%	5.5%	7.5%	0.0%	3.2%
SW0045	1.8%	1.9%	0.3%	1.1%	2.2%	7.3%	13.7%	0.0%	1.9%
SW0046	3.3%	2.4%	0.3%	1.9%	1.3%	9.1%	14.5%	0.0%	5.2%
SW0047	1.6%	2.8%	0.2%	1.8%	1.0%	7.4%	6.4%	0.0%	4.6%
SW0049	2.0%	1.6%	2.2%	3.3%	1.3%	10.4%	9.2%	0.0%	2.4%
Average	1.8%	2.0%	0.4%	1.7%	1.6%	7.6%	7.4%	0.2%	2.3%
Top 25%*	2.0%	2.4%	0.3%	1.8%	1.3%	7.8%	10.5%	0.1%	3.2%

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
SW0001	3.3%	4.7%	0.0%	1.7%	35.7%	0.0%	51.8%	61.8%
SW0007	0.9%	0.1%	0.2%	10.7%	29.3%	6.1%	47.3%	54.9%
SW0008	0.9%	7.0%	2.5%	5.8%	30.1%	0.7%	60.0%	67.8%
SW0009	2.1%	4.3%	0.2%	7.8%	29.2%	2.5%	53.2%	60.1%
SW0011	0.0%	2.2%	0.1%	15.6%	34.2%	6.7%	66.2%	74.4%
SW0014	1.4%	1.3%	0.0%	10.3%	29.6%	0.0%	56.8%	63.1%
SW0020	2.0%	1.8%	0.9%	6.4%	31.4%	0.0%	51.3%	58.8%
SW0022	1.5%	5.2%	4.3%	10.6%	28.0%	0.0%	59.8%	69.0%
SW0025	2.6%	5.7%	0.0%	8.9%	28.4%	0.0%	53.9%	61.3%
SW0027	0.7%	4.7%	0.0%	14.8%	31.8%	0.0%	62.7%	67.7%
SW0030	1.9%	5.2%	1.9%	7.3%	27.2%	2.8%	58.3%	64.5%
SW0032	1.0%	1.6%	0.0%	11.1%	29.2%	0.0%	48.8%	54.9%
SW0033	1.4%	3.7%	0.3%	10.7%	17.2%	0.0%	43.4%	49.9%
SW0035	1.1%	3.4%	0.4%	2.9%	31.7%	0.0%	54.3%	62.2%
SW0036	3.7%	3.9%	0.9%	6.8%	25.6%	0.0%	52.6%	61.3%
SW0037	1.0%	3.0%	0.8%	2.6%	31.4%	0.0%	48.2%	57.2%
SW0038	1.3%	3.4%	0.0%	8.4%	31.5%	0.0%	53.3%	60.8%
SW0040	1.9%	3.2%	2.3%	10.2%	32.4%	0.3%	52.5%	61.5%
SW0042	1.8%	2.1%	0.0%	8.8%	38.4%	1.5%	60.0%	66.2%
SW0043	1.3%	1.3%	0.8%	7.8%	26.2%	0.0%	45.5%	52.0%
SW0044	2.1%	1.8%	0.0%	15.9%	30.8%	0.0%	61.4%	67.0%
SW0045	1.4%	1.7%	0.5%	2.7%	27.9%	0.0%	49.7%	57.0%
SW0046	1.6%	3.0%	1.6%	1.8%	30.8%	2.7%	61.1%	70.2%
SW0047	1.3%	3.0%	0.0%	13.2%	26.1%	4.3%	58.9%	66.2%
SW0049	2.2%	4.3%	0.7%	3.6%	25.2%	0.0%	47.5%	57.9%
Average	1.6%	3.3%	0.7%	8.2%	29.6%	1.1%	54.3%	61.9%
Top 25%*	1.5%	4.0%	0.8%	5.9%	29.2%	1.3%	56.3%	64.1%

TABLE C7

Overhead costs % - South West

Percentage of total farm costs

Farm number	Rates	Registration and insurance	Farm insurance	Repairs and maintenance	Bank charges	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	% OF COSTS	% OF COSTS
SW0001	0.8%	1.1%	1.2%	7.1%	0.0%	1.6%	8.1%	19.9%	10.0%	8.2%	38.2%
SW0007	1.2%	0.2%	1.1%	3.3%	0.2%	1.5%	32.9%	40.4%	1.7%	3.0%	45.1%
SW0008	0.8%	0.0%	0.8%	5.4%	0.1%	2.1%	8.7%	17.9%	4.7%	9.6%	32.2%
SW0009	1.2%	0.2%	0.6%	4.7%	0.1%	1.3%	0.0%	8.1%	3.7%	28.1%	39.9%
SW0011	0.6%	0.2%	0.5%	3.6%	0.0%	2.9%	15.6%	23.4%	2.2%	0.0%	25.6%
SW0014	1.0%	0.4%	0.8%	7.0%	0.0%	1.4%	9.9%	20.5%	3.1%	13.3%	36.9%
SW0020	0.6%	0.1%	1.1%	7.5%	0.0%	1.8%	8.7%	19.9%	5.8%	15.5%	41.2%
SW0022	1.1%	0.2%	0.8%	7.3%	0.1%	2.5%	5.7%	17.7%	4.2%	9.2%	31.0%
SW0025	0.9%	0.5%	0.8%	8.1%	0.1%	1.8%	9.6%	21.7%	4.7%	12.3%	38.7%
SW0027	1.1%	0.5%	1.4%	4.8%	0.1%	1.9%	1.0%	10.8%	3.1%	18.5%	32.3%
SW0030	1.3%	0.1%	0.2%	5.4%	0.4%	2.8%	3.9%	14.1%	4.4%	16.9%	35.5%
SW0032	0.8%	0.6%	0.6%	6.8%	0.2%	5.3%	5.7%	20.0%	1.3%	23.8%	45.1%
SW0033	1.7%	0.6%	2.9%	1.3%	0.0%	1.8%	1.6%	9.9%	5.6%	34.6%	50.1%
SW0035	0.0%	0.1%	0.6%	5.9%	0.1%	2.7%	7.7%	17.1%	2.9%	17.7%	37.8%
SW0036	1.4%	0.9%	1.0%	1.6%	0.4%	1.6%	11.1%	17.9%	4.5%	16.3%	38.7%
SW0037	0.9%	0.5%	0.8%	13.3%	0.0%	0.6%	12.2%	28.3%	6.2%	8.3%	42.8%
SW0038	0.8%	0.2%	0.8%	6.7%	0.1%	2.0%	3.3%	13.8%	4.8%	20.6%	39.2%
SW0040	0.7%	0.3%	1.6%	5.3%	0.3%	2.6%	15.9%	26.7%	3.8%	8.0%	38.5%
SW0042	0.9%	0.5%	0.6%	5.5%	0.3%	1.1%	10.5%	19.3%	3.2%	11.4%	33.8%
SW0043	0.8%	0.7%	1.1%	3.7%	0.1%	1.9%	1.1%	9.3%	4.3%	34.5%	48.0%
SW0044	1.5%	0.4%	1.2%	3.6%	0.1%	1.7%	0.0%	8.5%	5.3%	19.2%	33.0%
SW0045	0.5%	0.1%	0.8%	4.4%	0.5%	11.4%	9.3%	27.0%	9.5%	6.6%	43.0%
SW0046	0.4%	0.2%	1.4%	8.8%	0.1%	1.6%	10.0%	22.5%	2.6%	4.7%	29.8%
SW0047	0.7%	0.1%	1.4%	6.0%	0.0%	2.1%	13.2%	23.6%	3.1%	7.0%	33.8%
SW0049	1.1%	0.3%	1.1%	8.4%	0.0%	3.1%	5.9%	19.9%	7.6%	14.6%	42.1%
Average	0.9%	0.4%	1.0%	5.8%	0.1%	2.4%	8.5%	19.1%	4.5%	14.5%	38.1%
Top 25%*	0.6%	0.2%	1.0%	6.4%	0.2%	3.6%	9.7%	21.6%	4.6%	9.6%	35.9%

TABLE C8

Capital structure - South West

	FARM ASSETS				OTHER FARM ASSETS (PER USABLE HECTARE)					LIABILITIES		EQUITY	
	Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	Total assets	Liabilities	Liabilities	Equity	Average equity
	\$/HA	\$/COW	\$/HA	\$/COW	\$/HA	\$/HA	\$/HA	\$/HA	\$/HA	\$/HA	\$/COW	\$/HA	%
Average	\$11,599	\$9,362	\$1,848	\$1,626	\$1,467	\$2,422	\$123	\$546	\$14,874	\$5,636	\$4,707	\$9,463	65%
Top 25%*	\$9,805	\$7,991			\$1,349	\$2,462	\$169	\$635	\$14,105	\$6,340	\$5,354	\$7,765	54%

TABLE C9

Historical data - South West

Average farm income, costs and profit per kilogram of milk solids

	INCOME				VARIABLE COSTS							
	Milk income (net)		Gross farm income		Herd costs		Shed costs		Feed costs		Total variable costs	
	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	\$5.34	\$5.05	\$6.26	\$0.19	\$0.23	\$0.13	\$0.16	\$2.61	\$3.24	\$2.97	\$3.68
2007-08	\$6.56	\$7.78	\$7.91	\$9.38	\$0.21	\$0.25	\$0.14	\$0.17	\$2.95	\$3.50	\$3.32	\$3.94
2008-09	\$5.40	\$6.31	\$6.13	\$7.16	\$0.22	\$0.25	\$0.15	\$0.18	\$2.55	\$2.98	\$2.93	\$3.42
2009-10	\$4.55	\$5.16	\$5.23	\$5.93	\$0.21	\$0.23	\$0.16	\$0.18	\$2.00	\$2.26	\$2.37	\$2.68
2010-11	\$5.62	\$6.15	\$6.34	\$6.94	\$0.21	\$0.23	\$0.18	\$0.20	\$2.10	\$2.29	\$2.48	\$2.72
2011-12	\$5.56	\$6.01	\$5.97	\$6.46	\$0.23	\$0.25	\$0.21	\$0.23	\$2.35	\$2.54	\$2.79	\$3.02
2012-13	\$4.90	\$5.18	\$5.24	\$5.54	\$0.24	\$0.26	\$0.21	\$0.23	\$2.60	\$2.75	\$3.06	\$3.23
2013-14	\$6.91	\$7.08	\$7.54	\$7.73	\$0.25	\$0.26	\$0.23	\$0.23	\$2.90	\$2.97	\$3.37	\$3.46
2014-15	\$6.16	\$6.22	\$6.70	\$6.77	\$0.25	\$0.26	\$0.20	\$0.21	\$2.88	\$2.91	\$3.34	\$3.38
2015-16	\$5.47	\$5.47	\$5.95	\$5.95	\$0.24	\$0.24	\$0.19	\$0.19	\$3.14	\$3.14	\$3.57	\$3.57
Average		\$6.07		\$6.81		\$0.25		\$0.20		\$2.86		\$3.31

	OVERHEAD COSTS						PROFIT							
	Cash overhead costs		Non-cash overhead costs		Total overhead costs		Earnings before interest & tax		Interest & lease charges		Net farm income		RETURN ON ASSETS	RETURN ON EQUITY
	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)		
2006-07	\$0.79	\$0.98	\$0.99	\$1.22	\$1.78	\$2.21	\$0.30	\$0.37	\$0.59	\$0.74	-\$0.29	-\$0.36	1.0%	-3.3%
2007-08	\$0.95	\$1.13	\$0.84	\$1.00	\$1.69	\$2.01	\$2.89	\$3.43	\$0.72	\$0.86	\$2.17	\$2.57	11.2%	14.8%
2008-09	\$0.92	\$1.08	\$0.89	\$1.04	\$1.81	\$2.11	\$1.32	\$1.55	\$0.69	\$0.81	\$0.63	\$0.74	4.5%	3.7%
2009-10	\$0.89	\$1.01	\$1.03	\$1.17	\$1.92	\$2.18	\$0.91	\$1.03	\$0.80	\$0.91	\$0.10	\$0.12	3.0%	1.3%
2010-11	\$1.06	\$1.16	\$1.08	\$1.18	\$2.14	\$2.35	\$1.71	\$1.87	\$0.95	\$1.04	\$0.77	\$0.84	5.5%	5.8%
2011-12	\$1.11	\$1.20	\$1.29	\$1.40	\$2.40	\$2.60	\$0.78	\$0.84	\$0.90	\$0.97	-\$0.12	-\$0.13	3.3%	-0.2%
2012-13	\$0.95	\$1.00	\$1.20	\$1.27	\$2.15	\$2.27	\$0.03	\$0.03	\$0.78	\$0.82	-\$0.75	-\$0.79	0.2%	-12.7%
2013-14	\$1.14	\$1.17	\$1.00	\$1.03	\$2.14	\$2.20	\$2.03	\$2.08	\$0.69	\$0.71	\$1.33	\$1.36	7.9%	9.9%
2014-15	\$1.15	\$1.16	\$0.92	\$0.93	\$2.08	\$2.10	\$1.28	\$1.29	\$0.62	\$0.63	\$0.66	\$0.67	5.2%	6.2%
2015-16	\$1.10	\$1.10	\$1.10	\$1.10	\$2.19	\$2.19	\$0.18	\$0.18	\$0.68	\$0.68	-\$0.49	-\$0.49	0.6%	-2.8%
Average		\$1.10		\$1.13		\$2.22		\$1.27		\$0.82		\$0.45	4.2%	2.3%

Note: 'Real' dollar values are the nominal values converted to 2015-16 dollar equivalents by the consumer price index (CPI) to allow for inflation.

TABLE C10

Historical data - South West

Average farm physical information

	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Estimated grazed pasture*	Estimated conserved feed*	Home grown feed as % of ME consumed	Concentrate price	
	HA	HA	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	\$412
2007-08	320	317	728	387	1.2	489	591	5.1	1.3	71%	\$425	\$504
2008-09	330	328	719	384	1.3	510	649	5.3	1.2	68%	\$390	\$456
2009-10	302	298	868	366	1.3	503	665	6.0	1.0	71%	\$287	\$325
2010-11	322	319	1,099	369	1.2	491	585	5.1	1.6	67%	\$302	\$330
2011-12	327	225	687	387	1.2	507	605	4.2	1.0	55%	\$309	\$334
2012-13	308	205	647	369	1.2	506	601	4.0	1.5	58%	\$342	\$361
2013-14	330	214	951	390	1.2	503	600	4.6	1.5	62%	\$395	\$405
2014-15	333	223	643	389	1.2	525	627	4.5	1.2	59%	\$408	\$412
2015-16	320	222	689	378	1.2	523	625	3.6	1.5	52%	\$400	\$400
Average	318	264	765	381	1.2	506	624	4.7	1.3	62%		\$394

* 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	Return on equity (incl. capital apprec.)
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	%	\$/ KG MS	%	\$/ KG MS	% OF INCOME	\$/ KG MS	%	%
GI0004	\$5.06	\$1.05	\$6.10	\$2.53	\$4.20	38%	-\$0.62	-1.9%	\$0.92	15.1%	-\$1.54	-9.5%	-9.6%
GI0005	\$5.02	\$0.09	\$5.11	\$2.88	\$3.47	45%	-\$1.25	-2.6%	\$0.64	12.5%	-\$1.89	-7.7%	-7.8%
GI0011	\$5.51	\$0.26	\$5.78	\$4.08	\$2.64	61%	-\$0.94	-2.0%	\$0.83	14.3%	-\$1.77	-9.0%	-15.7%
GI0012	\$5.12	\$0.10	\$5.22	\$2.48	\$2.74	47%	\$0.00	0.0%	\$0.58	11.0%	-\$0.58	-1.8%	-1.8%
GI0017	\$5.08	\$0.73	\$5.80	\$3.32	\$2.84	54%	-\$0.36	-1.2%	\$0.20	3.4%	-\$0.56	-2.9%	-2.9%
GI0021	\$5.22	\$0.63	\$5.85	\$4.13	\$1.92	68%	-\$0.20	-0.7%	\$1.00	17.0%	-\$1.20	-12.5%	-12.5%
GI0022	\$5.40	\$0.09	\$5.49	\$3.35	\$1.70	66%	\$0.44	1.2%	\$0.52	9.6%	-\$0.09	-0.4%	-0.3%
GI0025	\$5.08	\$0.80	\$5.88	\$3.25	\$2.05	61%	\$0.58	1.4%	\$0.73	12.4%	-\$0.15	-0.8%	-0.9%
GI0028	\$5.52	\$0.69	\$6.20	\$4.09	\$2.13	66%	-\$0.02	-0.1%	\$0.77	12.5%	-\$0.80	-7.3%	-8.5%
GI0029	\$5.07	\$0.70	\$5.77	\$2.47	\$1.94	56%	\$1.35	4.8%	\$0.30	5.3%	\$1.05	4.8%	2.9%
GI0031	\$5.18	\$0.52	\$5.70	\$3.66	\$1.77	67%	\$0.28	1.5%	\$0.28	4.9%	\$0.00	0.0%	0.0%
GI0032	\$5.27	\$0.62	\$5.89	\$3.48	\$2.11	62%	\$0.30	1.0%	\$0.11	1.9%	\$0.19	0.7%	2.1%
GI0039	\$5.60	\$0.54	\$6.14	\$3.82	\$1.78	68%	\$0.54	2.0%	\$0.73	11.9%	-\$0.19	-3.8%	-5.9%
GI0041	\$5.17	\$0.39	\$5.56	\$2.95	\$1.85	61%	\$0.77	2.7%	\$0.28	5.0%	\$0.49	2.1%	2.0%
GI0043	\$5.40	\$0.54	\$5.95	\$2.89	\$2.17	57%	\$0.89	3.2%	\$0.10	1.7%	\$0.79	3.3%	3.5%
GI0045	\$5.55	\$0.41	\$5.96	\$2.81	\$1.85	60%	\$1.30	3.1%	\$0.91	15.3%	\$0.39	3.2%	2.2%
GI0046	\$5.24	\$0.34	\$5.58	\$3.00	\$2.02	60%	\$0.56	1.9%	\$0.94	16.9%	-\$0.39	-3.2%	-3.1%
GI0048	\$5.53	\$0.75	\$6.28	\$3.37	\$1.55	68%	\$1.36	3.8%	\$0.45	7.2%	\$0.91	4.7%	4.1%
GI0049	\$4.89	\$0.47	\$5.36	\$3.16	\$1.85	63%	\$0.35	2.0%	\$0.66	12.3%	-\$0.31	-4.5%	-11.5%
GI0051	\$5.62	\$0.46	\$6.08	\$3.67	\$3.02	55%	-\$0.61	-1.0%	\$1.60	26.3%	-\$2.20	-16.8%	-45.4%
GI0052	\$5.67	\$0.22	\$5.89	\$4.51	\$2.44	65%	-\$1.06	-3.4%	\$0.46	7.8%	-\$1.51	-9.3%	-38.6%
GI0053	\$5.19	\$0.44	\$5.63	\$3.07	\$1.39	69%	\$1.17	6.2%	\$0.47	8.3%	\$0.71	5.2%	-1.3%
GI0054	\$5.04	\$0.54	\$5.59	\$2.90	\$1.67	63%	\$1.01	2.5%	\$0.72	13.0%	\$0.29	1.7%	1.0%
GI0055	\$5.51	\$0.96	\$6.47	\$2.55	\$2.39	52%	\$1.53	3.8%	\$1.16	17.9%	\$0.37	3.4%	3.7%
GI0056	\$5.01	\$0.39	\$5.40	\$2.45	\$1.94	56%	\$1.01	3.4%	\$0.56	10.3%	\$0.45	3.1%	3.3%
Average	\$5.28	\$0.51	\$5.79	\$3.24	\$2.22	60%	\$0.33	1.3%	\$0.64	11.0%	-\$0.30	-2.3%	-5.6%
Top 25%*	\$5.28	\$0.63	\$5.92	\$2.80	\$1.90	60%	\$1.22	4.2%	\$0.51	8.4%	\$0.71	4.1%	2.7%

* 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	140	135	839	210	1.5	301	452	4.2%	3.5%
GI0005	119	91	777	136	1.1	395	452	3.9%	3.1%
GI0011	145	85	861	140	1.0	451	436	3.8%	3.4%
GI0012	100	70	966	160	1.6	518	828	4.0%	3.4%
GI0017	245	161	820	210	0.9	456	391	4.1%	3.2%
GI0021	255	163	848	390	1.5	489	747	5.1%	4.0%
GI0022	463	280	857	508	1.1	536	588	3.9%	3.5%
GI0025	177	85	826	280	1.6	403	638	4.7%	3.4%
GI0028	180	97	777	255	1.4	555	786	4.0%	3.4%
GI0029	79	79	1,139	235	3.0	483	1,437	4.5%	3.3%
GI0031	73	73	1,309	290	4.0	488	1938	4.2%	3.7%
GI0032	155	110	779	300	1.9	509	984	4.1%	3.4%
GI0039	183	120	780	280	1.5	545	835	4.3%	3.5%
GI0041	266	153	787	400	1.5	477	718	4.6%	3.5%
GI0043	125	67	1,210	240	1.9	557	1,068	4.3%	3.5%
GI0045	342	177	869	420	1.2	478	586	4.7%	3.8%
GI0046	185	122	855	220	1.2	509	605	3.8%	3.5%
GI0048	342	185	869	500	1.5	517	756	4.2%	3.4%
GI0049	72	72	942	280	3.9	446	1,734	4.6%	3.6%
GI0051	272	174	883	355	1.3	383	501	4.3%	3.4%
GI0052	100	70	777	160	1.6	583	932	4.6%	3.7%
GI0053	93	93	1,007	300	3.2	565	1,832	4.2%	3.4%
GI0054	482	180	774	500	1.0	499	517	4.7%	3.6%
GI0055	283	100	982	220	0.8	544	423	4.1%	3.5%
GI0056	148	115	813	288	1.9	376	729	5.2%	3.8%
Average	201	122	894	291	1.7	482	836	4.3%	3.5%
Top 25%*	178	106	1,003	297	2.1	507	1,041	4.4%	3.5%

TABLE D2
Physical information - Gippsland

(Continued)

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	4.3	1.7	68%	55.1	2.3	7.9	7.9	85	25,628
GI0005	4.0	0.4	65%	6.6	1.8	6.2	1.1	64	25,329
GI0011	4.4	0.0	48%	77.8	22.7	74.9	30.4	103	46,381
GI0012	8.5	1.1	65%	134.8	34.0	22.2	43.2	69	35,624
GI0017	4.0	0.0	63%	29.1	11.4	30.6	13.2	72	32,704
GI0021	4.0	1.0	49%	22.5	4.5	8.2	2.5	101	49,378
GI0022	3.6	1.5	37%	59.5	13.5	37.4	10.4	177	94,694
GI0025	10.0	0.3	73%	206.3	7.4	62.4	20.2	135	54,609
GI0028	6.2	0.4	54%	171.0	30.4	49.2	21.4	112	62,078
GI0029	12.2	0.7	74%	156.6	36.1	46.7	39.2	111	53,620
GI0031	11.1	0.8	55%	381.1	10.7	25.1	11.1	134	65,306
GI0032	7.5	1.1	54%	296.8	22.9	72.7	28.3	110	55,782
GI0039	5.0	1.1	43%	205.0	24.9	67.6	28.3	116	63,278
GI0041	5.5	1.5	62%	100.0	16.0	32.2	19.9	122	58,207
GI0043	11.9	1.0	62%	265.9	70.3	67.5	40.8	102	56,560
GI0045	5.3	0.4	65%	93.4	3.6	10.1	5.0	135	64,435
GI0046	5.1	0.3	58%	92.3	18.1	19.4	19.4	101	51,241
GI0048	5.2	0.7	48%	200.0	0.0	0.0	10.5	133	68,542
GI0049	11.2	0.4	58%	121.4	13.9	26.1	17.3	145	64,568
GI0051	5.5	1.4	66%	191.9	0.0	17.6	10.3	106	40,482
GI0052	3.6	2.9	50%	368.6	110.1	115.0	66.6	126	73,488
GI0053	10.5	0.8	57%	318.6	14.6	35.3	18.2	134	75,825
GI0054	6.2	4.0	63%	98.0	14.8	26.6	13.0	118	59,038
GI0055	8.5	1.1	75%	59.1	10.6	27.6	9.1	97	52,513
GI0056	8.0	0.3	73%	248.2	21.4	13.3	1.3	147	55,247
Average	6.9	1.0	59%	158.4	20.6	36.1	19.5	114	55,382
Top 25%*	9.4	0.8	65%	208.0	25.5	31.7	19.9	120	60,385

** on milking area

TABLE D3
Purchased feed - Gippsland

Farm number	Purchased feed per milker	Concentrate price	Silage price	Hay price	Other feed price	Average purchased feed price	Average ME of purchased feed	Average purchased feed price	Percent of total energy imported
	T DM/HD	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	\$/ T DM	MJ ME/ KG	C/ MJ	% OF ME
GI0004	1.2	\$423				\$423	13.0	3.3	32%
GI0005	1.7	\$429		\$390		\$419	11.6	3.8	35%
GI0011	2.8	\$448		\$391		\$435	11.6	3.9	52%
GI0012	1.7	\$391				\$391	13.0	3.0	35%
GI0017	1.6	\$440	\$379	\$346		\$433	11.8	3.8	37%
GI0021	3.1	\$461		\$368		\$423	11.6	3.9	51%
GI0022	2.3	\$399				\$399	13.0	3.1	63%
GI0025	1.3	\$421		\$324	\$267	\$403	12.2	3.4	27%
GI0028	3.4	\$499		\$377	\$214	\$414	11.6	3.8	46%
GI0029	1.1	\$498	\$280	\$240		\$467	12.4	3.9	26%
GI0031	2.2	\$364		\$233		\$343	12.3	2.9	45%
GI0032	2.3	\$432		\$316		\$408	11.9	3.6	46%
GI0039	3.9	\$337		\$374		\$347	11.2	3.2	57%
GI0041	2.2	\$371		\$272		\$351	12.1	3.0	38%
GI0043	1.7	\$459		\$282		\$456	12.9	3.6	38%
GI0045	1.7	\$376		\$353		\$376	13.0	2.9	35%
GI0046	2.4	\$402		\$351		\$391	12.3	3.3	42%
GI0048	3.5	\$336	\$209	\$256		\$282	11.3	2.7	52%
GI0049	1.8	\$439	\$260			\$432	12.9	3.4	42%
GI0051	1.3	\$458		\$334		\$441	12.1	3.7	34%
GI0052	3.2	\$492		\$311	\$1,279	\$475	12.0	4.0	50%
GI0053	2.1	\$405		\$235		\$405	12.8	3.2	43%
GI0054	2.4	\$418		\$325	\$224	\$369	11.8	3.3	37%
GI0055	1.5	\$433				\$433	12.5	3.5	25%
GI0056	1.3	\$319			\$344	\$323	12.2	3.1	27%
Average	2.2	\$418	\$282	\$320	\$466	\$402	12.2	3.4	41%
Top 25%*	1.9	\$408				\$394	12.4	3.3	35%

TABLE D4
Variable costs - Gippsland

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS	\$/ KG MS
GI0004	\$0.01	\$0.07	\$0.01	\$0.08	\$0.02	\$0.19	\$0.22	\$0.00	\$0.16
GI0005	\$0.14	\$0.08	\$0.01	\$0.16	\$0.14	\$0.54	\$0.28	\$0.00	\$0.12
GI0011	\$0.06	\$0.05	\$0.02	\$0.15	\$0.13	\$0.41	\$0.68	\$0.00	\$0.15
GI0012	\$0.09	\$0.15	\$0.02	\$0.09	\$0.06	\$0.41	\$0.45	\$0.03	\$0.05
GI0017	\$0.10	\$0.12	\$0.03	\$0.11	\$0.17	\$0.53	\$0.37	\$0.02	\$0.07
GI0021	\$0.10	\$0.20	\$0.10	\$0.14	\$0.16	\$0.69	\$0.24	\$0.01	\$0.17
GI0022	\$0.16	\$0.27	\$0.02	\$0.11	\$0.03	\$0.59	\$0.34	\$0.01	\$0.30
GI0025	\$0.00	\$0.15	\$0.15	\$0.13	\$0.12	\$0.55	\$0.64	\$0.04	\$0.16
GI0028	\$0.17	\$0.15	\$0.03	\$0.10	\$0.08	\$0.54	\$0.60	\$0.00	\$0.09
GI0029	\$0.09	\$0.09	\$0.02	\$0.09	\$0.07	\$0.36	\$0.32	\$0.23	\$0.05
GI0031	\$0.14	\$0.20	\$0.08	\$0.09	\$0.09	\$0.59	\$0.34	\$0.36	\$0.14
GI0032	\$0.17	\$0.11	\$0.25	\$0.10	\$0.03	\$0.66	\$0.56	\$0.00	\$0.05
GI0039	\$0.12	\$0.14	\$0.03	\$0.11	\$0.09	\$0.50	\$0.53	\$0.01	\$0.14
GI0041	\$0.14	\$0.14	\$0.02	\$0.10	\$0.07	\$0.46	\$0.46	\$0.00	\$0.17
GI0043	\$0.09	\$0.13	\$0.01	\$0.08	\$0.06	\$0.37	\$0.46	\$0.32	\$0.13
GI0045	\$0.14	\$0.13	\$0.04	\$0.12	\$0.10	\$0.53	\$0.28	\$0.00	\$0.30
GI0046	\$0.11	\$0.09	\$0.03	\$0.14	\$0.02	\$0.40	\$0.38	\$0.02	\$0.11
GI0048	\$0.09	\$0.12	\$0.06	\$0.11	\$0.10	\$0.48	\$0.37	\$0.04	\$0.10
GI0049	\$0.15	\$0.13	\$0.03	\$0.22	\$0.09	\$0.60	\$0.16	\$0.20	\$0.05
GI0051	\$0.26	\$0.38	\$0.05	\$0.14	\$0.06	\$0.89	\$0.65	\$0.00	\$0.28
GI0052	\$0.11	\$0.12	\$0.04	\$0.11	\$0.10	\$0.48	\$0.84	\$0.00	\$0.19
GI0053	\$0.08	\$0.10	\$0.01	\$0.09	\$0.09	\$0.38	\$0.28	\$0.20	\$0.05
GI0054	\$0.09	\$0.12	\$0.00	\$0.08	\$0.08	\$0.37	\$0.42	\$0.02	\$0.00
GI0055	\$0.08	\$0.11	\$0.05	\$0.07	\$0.06	\$0.36	\$0.49	\$0.17	\$0.14
GI0056	\$0.18	\$0.18	\$0.06	\$0.09	\$0.10	\$0.61	\$0.54	\$0.00	\$0.08
Average	\$0.12	\$0.14	\$0.05	\$0.11	\$0.08	\$0.50	\$0.44	\$0.07	\$0.13
Top 25%*	\$0.10	\$0.12	\$0.04	\$0.09	\$0.08	\$0.43	\$0.41	\$0.16	\$0.09

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	\$0.08	\$0.12	\$0.00	\$0.04	\$1.72	\$0.00	\$2.33	\$2.53
GI0005	\$0.08	\$0.02	\$0.00	\$0.48	\$1.35	\$0.00	\$2.34	\$2.88
GI0011	\$0.13	\$0.01	\$0.01	\$0.55	\$2.14	\$0.00	\$3.67	\$4.08
GI0012	\$0.06	\$0.10	\$0.06	\$0.00	\$1.31	\$0.00	\$2.07	\$2.48
GI0017	\$0.09	\$0.01	\$0.00	\$0.79	\$1.43	\$0.02	\$2.79	\$3.32
GI0021	\$0.09	\$0.20	\$0.00	\$0.98	\$1.74	\$0.00	\$3.44	\$4.13
GI0022	\$0.08	\$0.17	\$0.04	\$0.04	\$1.78	\$0.00	\$2.76	\$3.35
GI0025	\$0.04	\$0.38	\$0.05	\$0.19	\$1.19	\$0.01	\$2.70	\$3.25
GI0028	\$0.06	\$0.24	\$0.03	\$0.41	\$2.12	\$0.01	\$3.56	\$4.09
GI0029	\$0.08	\$0.04	\$0.00	\$0.16	\$1.02	\$0.21	\$2.11	\$2.47
GI0031	\$0.04	\$0.08	\$0.03	\$0.23	\$1.41	\$0.45	\$3.07	\$3.68
GI0032	\$0.12	\$0.20	\$0.03	\$0.30	\$1.56	\$0.00	\$2.83	\$3.48
GI0039	\$0.04	\$0.10	\$0.00	\$0.71	\$1.81	\$0.00	\$3.32	\$3.82
GI0041	\$0.06	\$0.06	\$0.01	\$0.32	\$1.35	\$0.06	\$2.48	\$2.95
GI0043	\$0.06	\$0.03	\$0.00	\$0.04	\$1.38	\$0.09	\$2.52	\$2.89
GI0045	\$0.07	\$0.17	\$0.11	\$0.03	\$1.31	\$0.00	\$2.28	\$2.81
GI0046	\$0.05	\$0.08	\$0.08	\$0.36	\$1.51	\$0.02	\$2.61	\$3.00
GI0048	\$0.05	\$0.13	\$0.13	\$0.84	\$1.24	\$0.00	\$2.88	\$3.37
GI0049	\$0.03	\$0.05	\$0.01	\$0.07	\$1.72	\$0.27	\$2.56	\$3.16
GI0051	\$0.16	\$0.18	\$0.03	\$0.15	\$1.33	\$0.00	\$2.78	\$3.67
GI0052	\$0.11	\$0.22	\$0.04	\$0.21	\$2.43	\$0.00	\$4.04	\$4.51
GI0053	\$0.07	\$0.15	\$0.04	\$0.06	\$1.54	\$0.28	\$2.68	\$3.07
GI0054	\$0.07	\$0.13	\$0.00	\$0.40	\$1.44	\$0.05	\$2.53	\$2.90
GI0055	\$0.08	\$0.13	\$0.01	\$0.00	\$1.18	\$0.00	\$2.19	\$2.55
GI0056	\$0.01	\$0.07	\$0.00	\$0.00	\$1.14	\$0.00	\$1.84	\$2.45
Average	\$0.07	\$0.12	\$0.03	\$0.29	\$1.53	\$0.06	\$2.73	\$3.24
Top 25%*	\$0.06	\$0.09	\$0.03	\$0.18	\$1.25	\$0.10	\$2.37	\$2.80

TABLE D5
Overhead costs - Gippsland

Farm number	Rates	Registration and insurance	Farm insurance	Repairs and maintenance	Bank charges	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	\$/ KG MS	\$/ KG MS
GI0004	\$0.10	\$0.02	\$0.10	\$0.42	\$0.58	\$0.05	\$0.00	\$1.27	\$0.30	\$2.62	\$4.20
GI0005	\$0.13	\$0.04	\$0.17	\$0.24	\$0.03	\$0.11	\$0.00	\$0.72	\$0.10	\$2.65	\$3.47
GI0011	\$0.05	\$0.03	\$0.08	\$0.39	\$0.02	\$0.14	\$0.23	\$0.94	\$0.41	\$1.29	\$2.64
GI0012	\$0.08	\$0.01	\$0.04	\$0.36	\$0.00	\$0.14	\$0.22	\$0.85	\$0.26	\$1.63	\$2.74
GI0017	\$0.05	\$0.02	\$0.05	\$0.23	\$0.00	\$0.05	\$1.30	\$1.69	\$0.28	\$0.87	\$2.84
GI0021	\$0.09	\$0.00	\$0.04	\$0.18	\$0.01	\$0.13	\$0.58	\$1.03	\$0.19	\$0.71	\$1.92
GI0022	\$0.06	\$0.07	\$0.00	\$0.31	\$0.00	\$0.09	\$0.83	\$1.36	\$0.23	\$0.11	\$1.70
GI0025	\$0.09	\$0.02	\$0.10	\$0.21	\$0.04	\$0.07	\$0.01	\$0.54	\$0.28	\$1.23	\$2.05
GI0028	\$0.06	\$0.02	\$0.05	\$0.15	\$0.00	\$0.07	\$0.39	\$0.74	\$0.78	\$0.62	\$2.13
GI0029	\$0.07	\$0.04	\$0.07	\$0.26	\$0.00	\$0.09	\$0.59	\$1.13	\$0.11	\$0.70	\$1.94
GI0031	\$0.04	\$0.02	\$0.04	\$0.28	\$0.00	\$0.07	\$1.21	\$1.64	\$0.12	\$0.00	\$1.77
GI0032	\$0.06	\$0.06	\$0.05	\$0.35	\$0.00	\$0.06	\$0.40	\$0.99	\$0.36	\$0.76	\$2.11
GI0039	\$0.04	\$0.01	\$0.04	\$0.44	\$0.00	\$0.11	\$0.33	\$0.96	\$0.12	\$0.70	\$1.78
GI0041	\$0.06	\$0.01	\$0.03	\$0.49	\$0.00	\$0.09	\$0.54	\$1.22	\$0.08	\$0.55	\$1.85
GI0043	\$0.06	\$0.02	\$0.09	\$0.29	\$0.01	\$0.10	\$0.48	\$1.05	\$0.49	\$0.63	\$2.17
GI0045	\$0.08	\$0.00	\$0.05	\$0.40	\$0.00	\$0.17	\$0.34	\$1.04	\$0.13	\$0.67	\$1.85
GI0046	\$0.09	\$0.01	\$0.11	\$0.27	\$0.01	\$0.19	\$0.55	\$1.21	\$0.13	\$0.68	\$2.02
GI0048	\$0.04	\$0.02	\$0.04	\$0.35	\$0.00	\$0.04	\$0.38	\$0.88	\$0.07	\$0.60	\$1.55
GI0049	\$0.09	\$0.00	\$0.07	\$0.40	\$0.00	\$0.08	\$1.13	\$1.78	\$0.08	\$0.00	\$1.85
GI0051	\$0.06	\$0.01	\$0.07	\$0.62	\$0.02	\$0.28	\$1.26	\$2.31	\$0.21	\$0.49	\$3.02
GI0052	\$0.04	\$0.05	\$0.08	\$0.37	\$0.01	\$0.35	\$0.20	\$1.10	\$0.57	\$0.77	\$2.44
GI0053	\$0.03	\$0.01	\$0.06	\$0.23	\$0.00	\$0.09	\$0.16	\$0.58	\$0.13	\$0.69	\$1.39
GI0054	\$0.04	\$0.01	\$0.04	\$0.32	\$0.00	\$0.06	\$0.52	\$0.99	\$0.16	\$0.52	\$1.67
GI0055	\$0.03	\$0.01	\$0.04	\$0.52	\$0.03	\$0.07	\$0.02	\$0.72	\$0.41	\$1.27	\$2.39
GI0056	\$0.07	\$0.01	\$0.08	\$0.30	\$0.00	\$0.02	\$0.00	\$0.48	\$0.24	\$1.22	\$1.94
Average	\$0.07	\$0.02	\$0.06	\$0.33	\$0.03	\$0.11	\$0.47	\$1.09	\$0.25	\$0.88	\$2.22
Top 25%*	\$0.05	\$0.02	\$0.06	\$0.33	\$0.01	\$0.07	\$0.27	\$0.81	\$0.24	\$0.85	\$1.90

TABLE D6

Variable costs % - Gippsland

Percentage of total farm costs

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS	% OF COSTS
GI0004	0.1%	1.1%	0.2%	1.2%	0.3%	2.9%	3.3%	0.0%	2.3%
GI0005	2.3%	1.2%	0.2%	2.6%	2.3%	8.6%	4.5%	0.0%	2.0%
GI0011	0.9%	0.7%	0.4%	2.2%	2.0%	6.1%	10.2%	0.0%	2.2%
GI0012	1.8%	2.8%	0.5%	1.7%	1.1%	7.9%	8.6%	0.7%	0.9%
GI0017	1.6%	2.0%	0.4%	1.8%	2.8%	8.6%	6.0%	0.3%	1.1%
GI0021	1.6%	3.3%	1.6%	2.3%	2.6%	11.4%	3.9%	0.1%	2.8%
GI0022	3.2%	5.3%	0.4%	2.1%	0.6%	11.7%	6.7%	0.3%	5.9%
GI0025	0.0%	2.8%	2.8%	2.4%	2.2%	10.3%	12.0%	0.8%	3.1%
GI0028	2.7%	2.5%	0.4%	1.6%	1.4%	8.6%	9.7%	0.0%	1.4%
GI0029	2.1%	2.1%	0.4%	2.0%	1.6%	8.2%	7.3%	4.2%	1.1%
GI0031	2.5%	3.7%	1.4%	1.6%	1.6%	10.9%	6.2%	6.6%	2.5%
GI0032	3.1%	2.0%	4.4%	1.8%	0.5%	11.8%	10.0%	0.0%	0.9%
GI0039	2.2%	2.5%	0.5%	2.0%	1.6%	8.9%	9.4%	0.1%	2.4%
GI0041	2.9%	2.9%	0.4%	2.1%	1.4%	9.7%	9.7%	0.0%	3.5%
GI0043	1.8%	2.6%	0.2%	1.5%	1.1%	7.3%	9.2%	4.8%	2.6%
GI0045	3.0%	2.8%	0.8%	2.6%	2.3%	11.4%	6.0%	0.0%	6.3%
GI0046	2.3%	1.7%	0.7%	2.9%	0.3%	7.9%	7.6%	0.3%	2.1%
GI0048	1.9%	2.5%	1.3%	2.1%	2.0%	9.8%	7.5%	0.8%	2.0%
GI0049	2.9%	2.5%	0.5%	4.3%	1.8%	12.0%	3.2%	3.9%	1.0%
GI0051	3.9%	5.7%	0.7%	2.1%	0.9%	13.3%	9.7%	0.0%	4.2%
GI0052	1.5%	1.7%	0.6%	1.6%	1.4%	6.9%	12.1%	0.0%	2.7%
GI0053	1.8%	2.4%	0.3%	2.0%	2.1%	8.6%	6.3%	3.8%	1.1%
GI0054	2.0%	2.7%	0.0%	1.8%	1.7%	8.1%	9.2%	0.5%	0.0%
GI0055	1.5%	2.2%	1.1%	1.4%	1.2%	7.3%	9.8%	3.4%	2.7%
GI0056	4.2%	4.1%	1.4%	2.1%	2.2%	13.9%	12.2%	0.1%	1.9%
Average	2.2%	2.6%	0.9%	2.1%	1.6%	9.3%	8.0%	1.2%	2.4%
Top 25%*	2.2%	2.6%	0.8%	1.9%	1.7%	9.2%	8.7%	2.9%	1.9%

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	1.1%	1.8%	0.0%	0.5%	25.6%	0.0%	34.7%	37.6%
GI0005	1.3%	0.3%	0.0%	7.5%	21.2%	0.0%	36.8%	45.4%
GI0011	1.9%	0.1%	0.1%	8.1%	31.9%	0.0%	54.6%	60.7%
GI0012	1.1%	1.9%	1.2%	0.0%	25.1%	0.0%	39.5%	47.5%
GI0017	1.5%	0.2%	0.0%	12.8%	23.2%	0.3%	45.3%	53.9%
GI0021	1.5%	3.3%	0.1%	16.2%	28.8%	0.0%	56.8%	68.2%
GI0022	1.6%	3.4%	0.7%	0.9%	35.2%	0.0%	54.7%	66.4%
GI0025	0.8%	7.2%	0.9%	3.6%	22.5%	0.2%	51.0%	61.3%
GI0028	0.9%	3.8%	0.4%	6.6%	34.1%	0.2%	57.1%	65.8%
GI0029	1.8%	0.8%	0.0%	3.6%	23.1%	4.8%	47.8%	56.0%
GI0031	0.7%	1.5%	0.5%	4.3%	25.9%	8.2%	56.5%	67.4%
GI0032	2.1%	3.6%	0.6%	5.4%	27.9%	0.0%	50.6%	62.3%
GI0039	0.7%	1.8%	0.0%	12.6%	32.2%	0.0%	59.2%	68.2%
GI0041	1.2%	1.2%	0.1%	6.6%	28.2%	1.2%	51.7%	61.4%
GI0043	1.2%	0.6%	0.0%	0.8%	27.4%	1.7%	49.8%	57.1%
GI0045	1.6%	3.7%	2.4%	0.7%	28.0%	0.0%	48.9%	60.3%
GI0046	1.0%	1.5%	1.6%	7.3%	30.0%	0.5%	51.9%	59.8%
GI0048	1.0%	2.6%	2.6%	17.0%	25.1%	0.0%	58.6%	68.4%
GI0049	0.6%	1.0%	0.1%	1.5%	34.3%	5.4%	51.0%	63.0%
GI0051	2.3%	2.7%	0.4%	2.3%	20.0%	0.0%	41.6%	54.9%
GI0052	1.5%	3.1%	0.6%	3.0%	35.0%	0.0%	58.1%	64.9%
GI0053	1.6%	3.5%	0.8%	1.4%	34.5%	6.4%	60.2%	68.7%
GI0054	1.6%	2.9%	0.0%	8.7%	31.5%	1.0%	55.3%	63.4%
GI0055	1.7%	2.6%	0.2%	0.0%	23.8%	0.0%	44.2%	51.6%
GI0056	0.2%	1.6%	0.0%	0.0%	26.1%	0.0%	42.0%	55.9%
Average	1.3%	2.3%	0.5%	5.3%	28.0%	1.2%	50.3%	59.6%
Top 25%*	1.3%	1.9%	0.6%	3.8%	26.7%	2.2%	50.4%	59.6%

TABLE D7

Overhead costs % - Gippsland

Percentage of total farm costs

Farm number	Rates	Registration and insurance	Farm insurance	Repairs and maintenance	Bank charges	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	% OF COSTS	% OF COSTS
GI0004	1.5%	0.3%	1.5%	6.2%	8.6%	0.7%	0.0%	18.9%	4.5%	39.0%	62.4%
GI0005	2.0%	0.7%	2.6%	3.8%	0.4%	1.7%	0.0%	11.3%	1.6%	41.7%	54.6%
GI0011	0.8%	0.4%	1.2%	5.8%	0.4%	2.0%	3.4%	14.0%	6.1%	19.2%	39.3%
GI0012	1.5%	0.2%	0.8%	6.8%	0.1%	2.7%	4.2%	16.3%	5.0%	31.2%	52.5%
GI0017	0.8%	0.3%	0.8%	3.7%	0.0%	0.8%	21.1%	27.5%	4.6%	14.1%	46.1%
GI0021	1.4%	0.0%	0.6%	3.0%	0.1%	2.2%	9.6%	17.0%	3.1%	11.7%	31.8%
GI0022	1.2%	1.5%	0.0%	6.0%	0.0%	1.7%	16.5%	26.9%	4.5%	2.2%	33.6%
GI0025	1.7%	0.3%	1.9%	4.1%	0.8%	1.4%	0.1%	10.2%	5.3%	23.1%	38.7%
GI0028	1.0%	0.3%	0.9%	2.4%	0.1%	1.1%	6.2%	11.9%	12.4%	9.9%	34.2%
GI0029	1.6%	0.8%	1.5%	6.0%	0.1%	2.1%	13.5%	25.6%	2.5%	15.9%	44.0%
GI0031	0.7%	0.3%	0.7%	5.1%	0.0%	1.2%	22.3%	30.3%	2.3%	0.0%	32.6%
GI0032	1.1%	1.1%	0.9%	6.3%	0.1%	1.1%	7.1%	17.7%	6.4%	13.5%	37.7%
GI0039	0.8%	0.1%	0.7%	7.8%	0.0%	1.9%	6.0%	17.2%	2.1%	12.5%	31.8%
GI0041	1.2%	0.2%	0.7%	10.2%	0.1%	1.8%	11.3%	25.5%	1.7%	11.4%	38.6%
GI0043	1.1%	0.4%	1.8%	5.7%	0.1%	2.0%	9.6%	20.8%	9.6%	12.4%	42.9%
GI0045	1.6%	0.1%	1.1%	8.6%	0.0%	3.7%	7.2%	22.4%	2.9%	14.5%	39.7%
GI0046	1.7%	0.2%	2.1%	5.4%	0.2%	3.7%	10.9%	24.2%	2.6%	13.4%	40.2%
GI0048	0.9%	0.5%	0.7%	7.2%	0.1%	0.8%	7.7%	17.9%	1.4%	12.3%	31.6%
GI0049	1.9%	0.0%	1.4%	8.0%	0.0%	1.5%	22.6%	35.4%	1.6%	0.0%	37.0%
GI0051	0.9%	0.2%	1.0%	9.2%	0.3%	4.2%	18.8%	34.6%	3.2%	7.4%	45.1%
GI0052	0.6%	0.7%	1.2%	5.4%	0.1%	5.1%	2.9%	15.9%	8.1%	11.0%	35.1%
GI0053	0.8%	0.1%	1.4%	5.1%	0.0%	2.1%	3.5%	13.0%	2.9%	15.4%	31.3%
GI0054	1.0%	0.1%	0.9%	6.9%	0.0%	1.4%	11.4%	21.7%	3.5%	11.4%	36.6%
GI0055	0.6%	0.2%	0.8%	10.6%	0.6%	1.3%	0.4%	14.6%	8.2%	25.6%	48.4%
GI0056	1.5%	0.3%	1.8%	6.8%	0.1%	0.5%	0.0%	11.0%	5.4%	27.7%	44.1%
Average	1.2%	0.4%	1.2%	6.2%	0.5%	1.9%	8.6%	20.1%	4.5%	15.9%	40.4%
Top 25%*	1.1%	0.4%	1.3%	6.9%	0.2%	1.5%	5.8%	17.1%	5.0%	18.2%	40.4%

TABLE D8

Capital structure - Gippsland

	FARM ASSETS				OTHER FARM ASSETS (PER USABLE HECTARE)					LIABILITIES		EQUITY	
	Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	Total assets	Liabilities	Liabilities	Equity	Average equity
	\$/HA	\$/COW	\$/HA	\$/COW	\$/HA	\$/HA	\$/HA	\$/HA	\$/HA	\$/HA	\$/COW	\$/HA	%
Average	\$16,139	\$8,548	\$4,307	\$1,761	\$1,341	\$3,282	\$181	\$1,276	\$20,740	\$6,866	\$4,261	\$13,875	66%
Top 25%*	\$16,716	\$7,082	\$5,876	\$2,664	\$1,566	\$3,775	\$167	\$2,488	\$25,602	\$6,949	\$3,894	\$18,653	69%

TABLE D9

Historical data - Gippsland

Average farm income, costs and profit per kilogram of milk solids

	INCOME				VARIABLE COSTS							
	Milk income (net)		Gross farm income		Herd costs		Shed costs		Feed costs		Total variable costs	
	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	\$5.53	\$5.16	\$6.40	\$0.23	\$0.28	\$0.15	\$0.18	\$2.31	\$2.87	\$2.72	\$3.38
2007-08	\$6.62	\$7.86	\$7.58	\$9.00	\$0.27	\$0.33	\$0.13	\$0.16	\$2.80	\$3.32	\$3.30	\$3.91
2008-09	\$5.32	\$6.22	\$6.05	\$7.07	\$0.25	\$0.30	\$0.15	\$0.18	\$2.61	\$3.05	\$3.01	\$3.52
2009-10	\$4.38	\$4.97	\$5.07	\$5.75	\$0.22	\$0.25	\$0.17	\$0.19	\$1.95	\$2.21	\$2.33	\$2.64
2010-11	\$5.59	\$6.12	\$6.34	\$6.93	\$0.28	\$0.30	\$0.19	\$0.20	\$2.06	\$2.25	\$2.52	\$2.75
2011-12	\$5.37	\$5.80	\$5.89	\$6.37	\$0.29	\$0.31	\$0.18	\$0.20	\$2.12	\$2.29	\$2.59	\$2.80
2012-13	\$4.75	\$5.02	\$4.99	\$5.27	\$0.31	\$0.33	\$0.22	\$0.23	\$2.31	\$2.44	\$2.85	\$3.01
2013-14	\$6.62	\$6.79	\$7.33	\$7.51	\$0.31	\$0.32	\$0.21	\$0.22	\$2.67	\$2.74	\$3.19	\$3.27
2014-15	\$5.88	\$5.94	\$6.51	\$6.57	\$0.32	\$0.32	\$0.20	\$0.20	\$2.63	\$2.65	\$3.15	\$3.18
2015-16	\$5.28	\$5.28	\$5.79	\$5.79	\$0.27	\$0.27	\$0.20	\$0.20	\$2.73	\$2.73	\$3.24	\$3.24
Average		\$5.95		\$6.76		\$0.30		\$0.20		\$2.63		\$3.17

	OVERHEAD COSTS						PROFIT							
	Cash overhead costs		Non-cash overhead costs		Total overhead costs		Earnings before interest & tax		Interest & lease charges		Net farm income		RETURN ON ASSETS	RETURN ON EQUITY
	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)	NOMINAL (\$/KG MS)	REAL (\$/KG MS)		
2006-07	\$0.69	\$0.86	\$1.44	\$1.78	\$2.13	\$2.64	\$0.31	\$0.38	\$0.57	\$0.71	-\$0.26	-\$0.32	0.8%	-2.1%
2007-08	\$0.80	\$0.94	\$0.90	\$1.07	\$1.59	\$1.89	\$2.69	\$3.19	\$0.61	\$0.72	\$2.08	\$2.47	9.7%	14.9%
2008-09	\$0.78	\$0.92	\$0.93	\$1.08	\$1.71	\$2.00	\$1.28	\$1.49	\$0.51	\$0.60	\$0.76	\$0.89	4.0%	3.4%
2009-10	\$0.80	\$0.91	\$1.09	\$1.24	\$1.90	\$2.15	\$0.80	\$0.90	\$0.70	\$0.79	\$0.10	\$0.11	2.6%	0.7%
2010-11	\$0.93	\$1.02	\$0.93	\$1.01	\$1.86	\$2.03	\$1.96	\$2.14	\$0.67	\$0.73	\$1.29	\$1.41	6.1%	9.9%
2011-12	\$0.95	\$1.03	\$1.05	\$1.14	\$2.01	\$2.17	\$1.30	\$1.40	\$0.65	\$0.71	\$0.64	\$0.70	4.4%	5.1%
2012-13	\$1.09	\$1.15	\$1.19	\$1.26	\$2.28	\$2.40	-\$0.14	-\$0.14	\$0.73	\$0.77	-\$0.86	-\$0.91	-0.2%	-6.2%
2013-14	\$1.04	\$1.06	\$1.07	\$1.10	\$2.11	\$2.16	\$2.03	\$2.08	\$0.69	\$0.71	\$1.34	\$1.37	6.4%	10.2%
2014-15	\$1.05	\$1.06	\$0.96	\$0.97	\$2.00	\$2.02	\$1.36	\$1.37	\$0.68	\$0.69	\$0.68	\$0.69	4.7%	4.6%
2015-16	\$1.09	\$1.09	\$1.13	\$1.13	\$2.22	\$2.22	\$0.33	\$0.33	\$0.64	\$0.64	-\$0.30	-\$0.30	1.3%	-2.3%
Average		\$1.00		\$1.18		\$2.17		\$1.32		\$0.71		\$0.61	4.0%	3.8%

Note: 'Real' dollar values are the nominal values converted to 2015-16 dollar equivalents by the consumer price index (CPI) to allow for inflation.

TABLE D10

Historical data - Gippsland

Average farm physical information

	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per usable area	Milk sold	Milk sold	Estimated grazed pasture*	Estimated conserved feed*	Home grown feed as % of ME consumed	Concentrate price	
	HA	HA	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	\$420
2007-08	181	174	838	289	1.6	464	741	7.2	1.1	74%	\$451	\$535
2008-09	182	172	814	276	1.6	483	803	7.2	0.8	71%	\$385	\$450
2009-10	172	160	1022	268	1.7	472	792	7.6	0.9	73%	\$273	\$309
2010-11	190	187	1,123	285	1.6	494	811	7.1	1.7	69%	\$315	\$345
2011-12	189	126	1,182	291	1.7	501	843	7.4	0.9	62%	\$311	\$336
2012-13	194	134	906	299	1.7	462	781	6.9	0.6	62%	\$356	\$376
2013-14	186	126	1044	284	1.8	468	835	7.6	1.0	68%	\$403	\$414
2014-15	189	123	956	304	1.8	479	890	7.4	1.1	66%	\$419	\$424
2015-16	201	122	894	291	1.7	482	836	6.9	1.0	59%	\$418	\$418
Average	187	151	945	287	1.7	471	791	7.1	1.0	67%		\$403

* 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, feed inventory change, dividends, interest payments received and rent from 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 land and buildings, plant and machinery, fixtures and fittings, trading stock, investments (ie. Farm Management Deposits), debtors and cash.

Break-even price required

Cost of production minus income only sourced from the main enterprise output. Allows for direct comparison with price received of main output.

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 and tax (EBIT)

Gross income minus total variable costs, 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 managed. 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.

Finance costs

See interest and lease costs.

Full time equivalent (FTE)

Standardised people unit. Equal to 2,400 hours a year. Calculated as 50 hours a week, 48 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 and 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 and feed trading gains and other income such as income from grants and rebates.

Gross margin

Gross income minus total variable costs.

Herd costs

Cost of 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 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 cost.

Labour efficiency

FTEs per cow and per kilogram of milk solid. Measures 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, eg family or an institute such as a bank.

Livestock trading profit

An estimate of the annual contribution to gross 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.

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 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 usable area

Total hectares managed minus that 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:

$(\text{total megalitres of water used} / \text{total usable area}) \times 100.$

Variable costs

All costs that vary with the size of production in the enterprise eg. herd, shed and feed costs.

List of abbreviations

AI	Artificial insemination
CH₄	Methane gas
CO₂	Carbon dioxide gas
CO₂-e	Carbon dioxide equivalent
CoP	Cost of production
DFMP	Dairy Farm Monitor Project
DM	Dry matter of feed stuffs
DEDJTR	Department of Economic Development, Jobs, Transport and Resources, Victoria
EBIT	Earnings before interest and tax
FTE	Full time equivalent
GWP	Global Warming Potential
ha	Hectare(s)
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)
N₂O	Nitrous oxide gas
Q1	First quartile, i.e. the value of which one quarter, or 25%, of data in that range is <i>less</i> than
Q3	Third quartile, i.e. the value of which one quarter, or 25%, of data in that range is <i>greater</i> than
RoA	Return on assets
RoE	Return on equity
t	Tonne = 1,000 kg

Standard Values

Irrigation values

The standard values used to estimate the inventory values of irrigation water were

Category	Opening value (\$/ML)	Closing value (\$/ML)
HRWS	\$2,400	\$2,400
LRWS	\$230	\$230
Carry over water	\$200	\$230

Livestock values

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

Category	Opening value (\$/hd)	Closing value (\$/hd)
Mature cows	\$1,500	\$1,500
13/14 heifers	\$1,050	\$1,500
14/15 heifers	\$450	\$1,050
15/16 calves		\$450
14/15 bulls	\$450	\$750
13/14 bulls	\$750	\$750
Mature bulls	\$1,500	\$1,500

Imputed owner/operator and family labour

In 2016-16 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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