



Dairy Farm Monitor Project

New South Wales
annual report 2014–15

Acknowledgements

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

The project is conducted by NSW Department of Primary Industries, managed by Kerry Kempton, Technical Specialist Dairy. The success of the project was made possible this year through the contributions of Peter Havrlant & Nicolas Lyons, Dairy Development Officers with NSW DPI; Julie Dart & Brendan O'Brien from North Coast Local Land Services; and Sheena Carter, Lloyd Davies, Caroline Hayes, Emma Oke and Hayden Kingston. These people collected farm data and provided feedback and validation to ensure the accuracy and integrity of the information.

The diligent work of Victorian Economic Development, Jobs, Transport and Resources (DEDJTR) Dairy Services Natalie Nelson and Olive Montecillo, who conducted the data analysis and continued to be actively involved in the report through to its publication is much appreciated.

Thank you to Dean Morris from NSW DPI at Tocal College for creating the map used in this publication.

This report has been produced by Kerry Kempton, in conjunction with the Victorian Department of Economic Development, Jobs, Transport and Resources and Dairy Australia.

This document is also available in PDF format on the internet at dairyaustralia.com.au/dairyfarmmonitor.

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ISSN 2206-0014

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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 region overview
- › Business confidence survey
- › Greenhouse gas emissions report
- › Historical analysis
- › Appendices

This year data was collected from 37 farms from across the whole of NSW, with almost every dairying region represented. The participating farms have been allocated into two groups for analysis: the North and the South. Whilst this grouping reflects general similarities among farm systems, and the influences on milk pricing across NSW, there is still a large geographical spread of farms within each group and a wide range of regional differences in terms of climate and resources.

Participants were selected for the project in order to represent a distribution of farm sizes, herd sizes and geographical locations within each region. There were nine new farms in the sample this year, with two dropping out from last year, for a net gain of seven. 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 2014/15 year. Data are presented for individual farms, as regional averages and for the regional top 25% of farms ranked by return on assets.

The presented averages should not be considered averages for the population of farms in a given region due to the small sample size and these farms not being randomly selected.

The top 25% of farms are presented as striped 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 20 participating farms in the Northern half of NSW are referred to as ‘the North’.
- › The 17 participating farms in the Southern half of NSW are referred to as ‘the South’.

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

Milk production data is presented in kilograms of milk solids 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. Where appropriate the corresponding amount is also included as cents per litre figures.

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

The top 25% consists of five farms from the North and four from the South regions and nine farms on a statewide basis. The nine farms in the statewide top 25% are taken by considering all 37 as the one sample and not from combining the top farms from each region.

Any reference to ‘last year’ refers to the 2013/14 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 2013/14 are in the 2014/15 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 2014/15?

The Dairy Farm Monitor Report for 2014/15 includes some changes since last year's report. The most significant highlights are:

- › The pasture consumption calculations have been revised to now align with the Victorian DEDJTR Dairy Pasture Consumption Calculator available online at dairypastureconsumptioncalculator.com.au
- › A historical analysis section has been added to the report this year for the first time. This compares the performance of participant farms in the Dairy Farm Monitor Project over the past four years, and compares the trends in farm performance between individual regions. The appendix tables also include the main performance indicators over the life of the project.

Keep an eye on the project website for further reports and updates on the project at dairyaustralia.com.au/dairyfarmmonitor

Summary



Summary

In 2014/15 data collected from 37 farms across New South Wales revealed that higher milk prices were received by NSW dairy farmers and seasonal conditions were generally favourable, keeping costs of production at similar levels to the previous year. This led to improved profitability across most farms.

The NSW dairy industry performed strongly in 2014/15, with milk production reaching 1.16 billion litres, a 5% increase on the previous year.

In 2014/15 milk price reached an average of \$7.46/kg MS (54 c/l), on the back of strong competition for milk to meet the demands of the NSW and southern Queensland liquid milk market. This is the highest milk price received in the four years of the project.

Favourable seasonal conditions and above average rainfall meant that farms across the state increased their fodder reserves during the year. Closing quantities of conserved fodder were higher than the amounts of feed on hand at the start of the year.

These positive conditions have been reflected in the performance of the farms in the Dairy Farm Monitor Project, where farm profitability significantly improved this year compared to 2013/14. The average earnings before interest and tax (EBIT) was \$1.32/kg MS (10 c/l), which was a 48% improvement on the previous year.

Whilst this year there was a marked improvement in farm profit across the state, there was also again a clear difference in profit between the farms in the two groups.

The North

Across the North, most farms experienced dry conditions in spring, with wet conditions in autumn resulting in above average rainfall for the year. Milk prices rose by 6% to \$7.62 /kg MS (55 c/l). The average cost of production was very similar to the year before, at \$7.79 / kg MS for the North, leading to better overall profit than the previous year. Farms fed a little more purchased feed per cow but paid less for it, with concentrates reaching \$434 per tonne of dry matter (t DM) on average for 2014/15.

These favourable conditions resulted in average whole farm earnings before interest and tax (EBIT) nearly doubling to \$120,427 per farm compared to \$67,137 in 2013/14. Average return on assets also rose from 0.8% in 2013/14 to 1.9% in 2014/15. Only two of the 20 farms in this group recorded a negative return on assets and equity.

The South

Most of the South region experienced reasonably good seasonal conditions throughout 2014/15, although those localities on the eastern side of the ranges fared better than further inland, with close to or above average rainfall throughout the year.

Milk prices increased by around 2% over the previous year to \$7.28/kg MS. Cost of production decreased slightly in 2014/15, with lower prices for purchased feed. Overall this led to an increase in EBIT to an average of \$434,843 per farm this year, up 50% on the previous year. All of the 17 farms recorded positive return on assets, with the average for the group increasing to 5.3%, from 4.8% in 2013/14.

Farmer confidence

Following better than average profits in the 2014/15 year, expectations for the coming season were positive in the North. Around 80% of farmers were predicting either an improvement or at least no change in farm business returns. The sentiment was less buoyant in the South, however 50% of participants still expect improvement or no change, while 30% expect a deterioration in business returns.

Intentions for increasing milk production next year were strongly positive across both regions, indicating an improvement in farmer confidence about the year ahead. This is tempered however by concerns about the developing El Niño weather pattern with the likelihood of drier and hotter seasonal influences.

Labour issues including succession planning, along with seasonal conditions and input costs were the top three issues identified by farmers over the next 12 months. Over the longer term the key issues farmers are also concerned about are competing land uses including urban encroachment, mining and gas explorations, access to affordable land for expansion; and upgrading aging farm infrastructure.

Historical analysis

A historical analysis over the past four years of the project showed that 2014/15 had the highest EBIT per farm and the second highest return on assets and equity.

Farm monitor method



Farm monitor method

This chapter explains the methodology 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 reports. Readers should be aware that not all benchmarking programs use the same methodology or terminology 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 total 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.

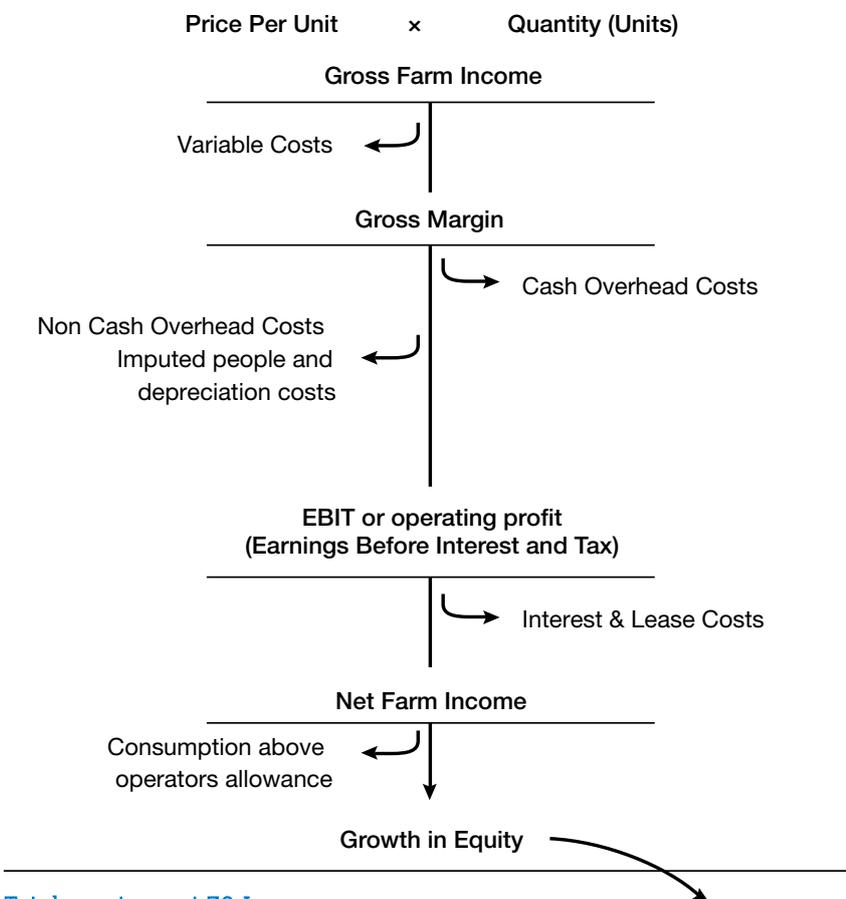
Figure 2 shows this methodology using the average for all participants in the project. Production and economic data are both shown to indicate how the terms are calculated and how they in turn fit together.

Figure 1 Dairy farm monitor project method

Total assets as at 1 July



Financial performance for the year



Total assets as at 30 June



Gross farm income

The farming business generates a total 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 Dairy Farm Monitor Project separates overheads into cash and non-cash overheads, to distinguish between different cash flows within the business. Cash overheads include rates, insurance, and repairs and maintenance. Non cash overheads include costs that are not actual cash receipts or expenditure; for example the amount of depreciation on a piece of equipment. Imputed operators' allowance for labour and management is also a non-cash overhead that must be costed and deducted from income if a realistic estimate of costs, profit and the return on the capital of the business is to be obtained.

Earnings before interest and tax

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

Net farm income

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

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

Return on assets and return on equity

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

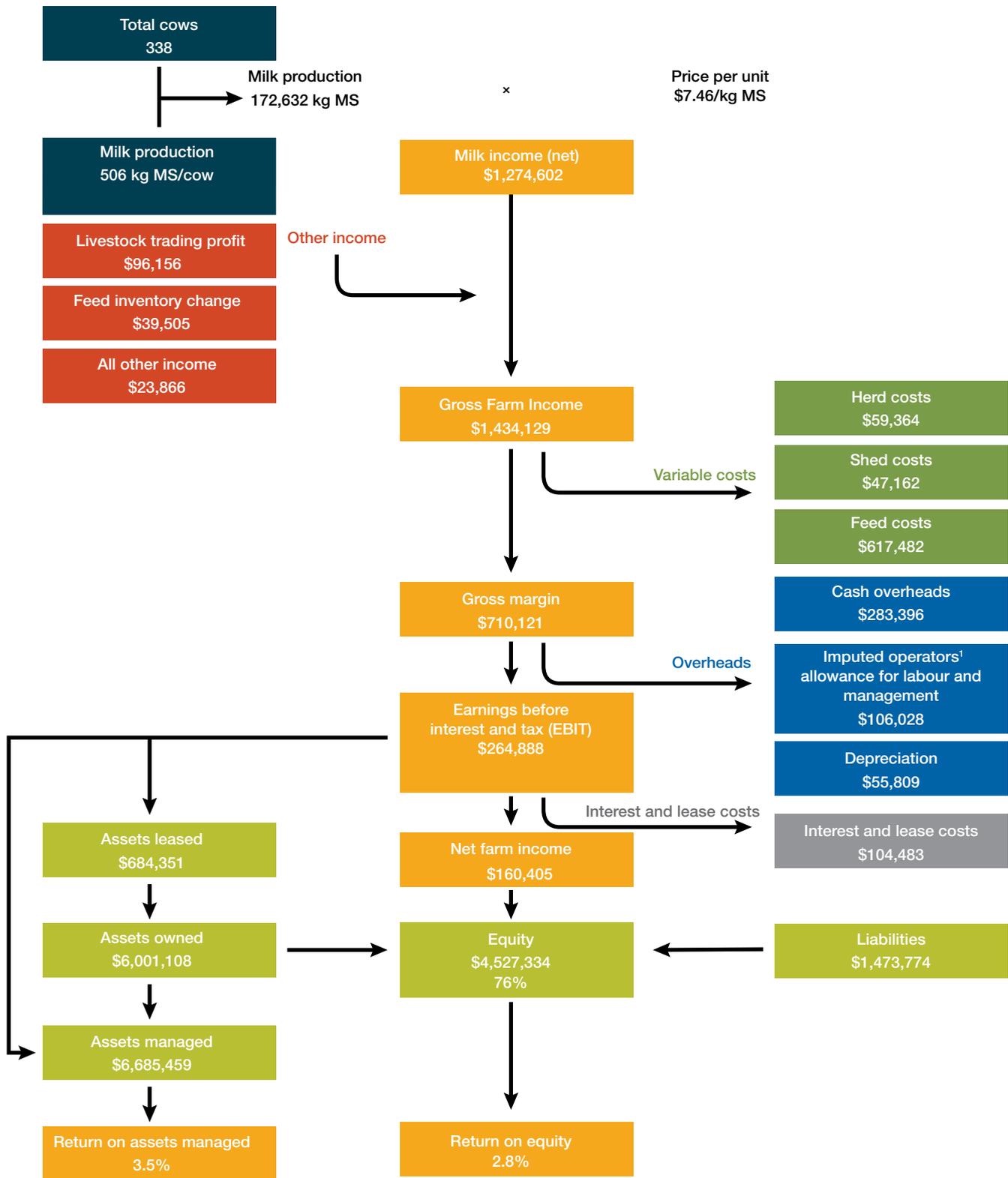
Return on assets indicates the overall earning of the total farm assets, irrespective of capital structure of the business. It is EBIT or operating profit expressed as a percentage of the total assets under management in the farm business, including the value of leased assets. Earnings before interest 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. Return on assets is sometimes referred to as return on capital. The return on equity including capital appreciation is reported in Appendix Table 1 for each region.

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 Dairy Farm Monitor Project reports return on equity with and without capital appreciation. This is to distinguish between productivity gains (return on equity without capital appreciation) and capital gains (return on equity with capital appreciation).

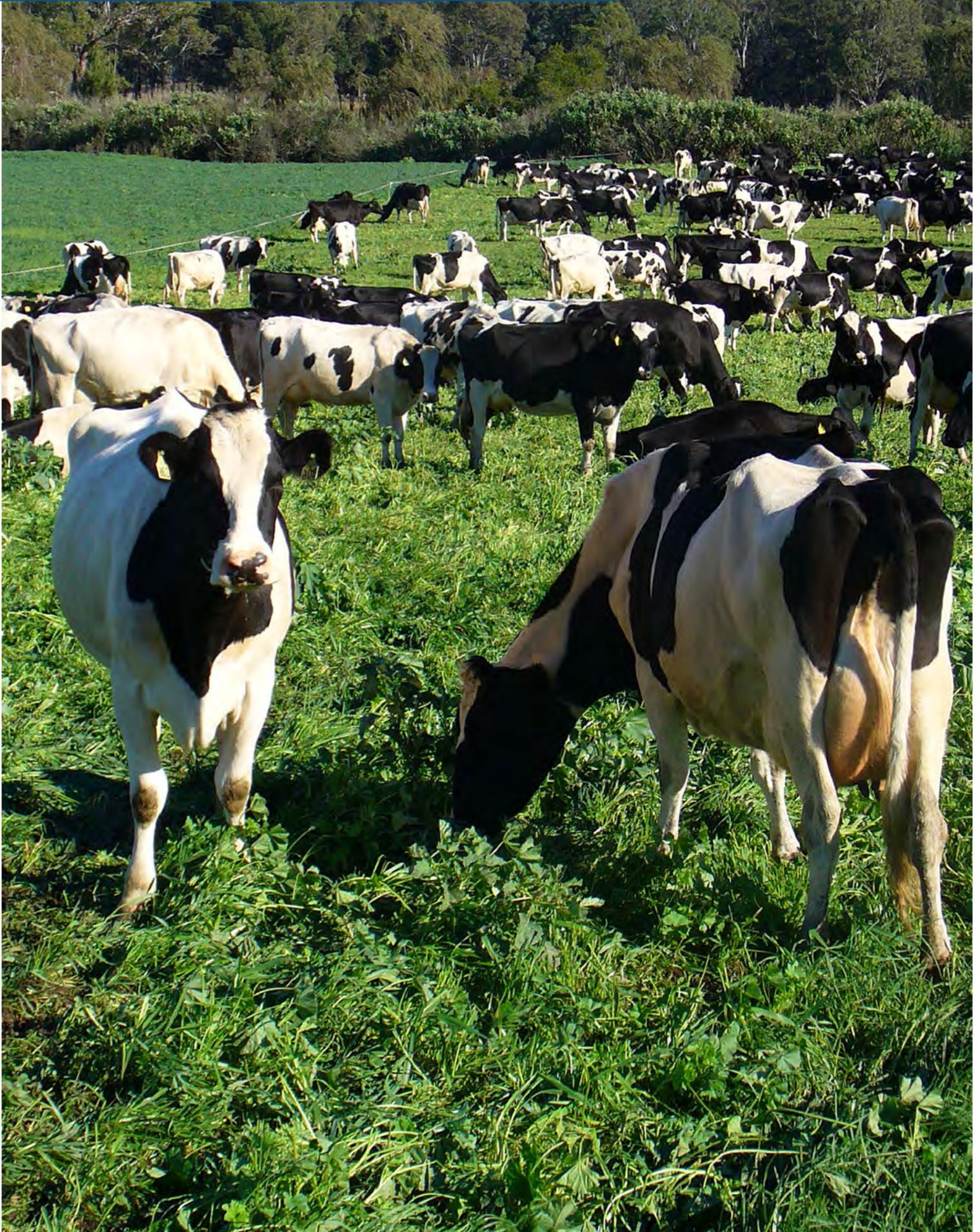
Figure 2 Dairy farm monitor project method profit map – state average data

Dairy farm monitor project method
All farms 37



¹ Profit map adapted from Queensland Dairy Accounting Scheme - 2010 with permission from Ray Murphy, Department of Agriculture, Fisheries and Forestry, Queensland

Statewide overview



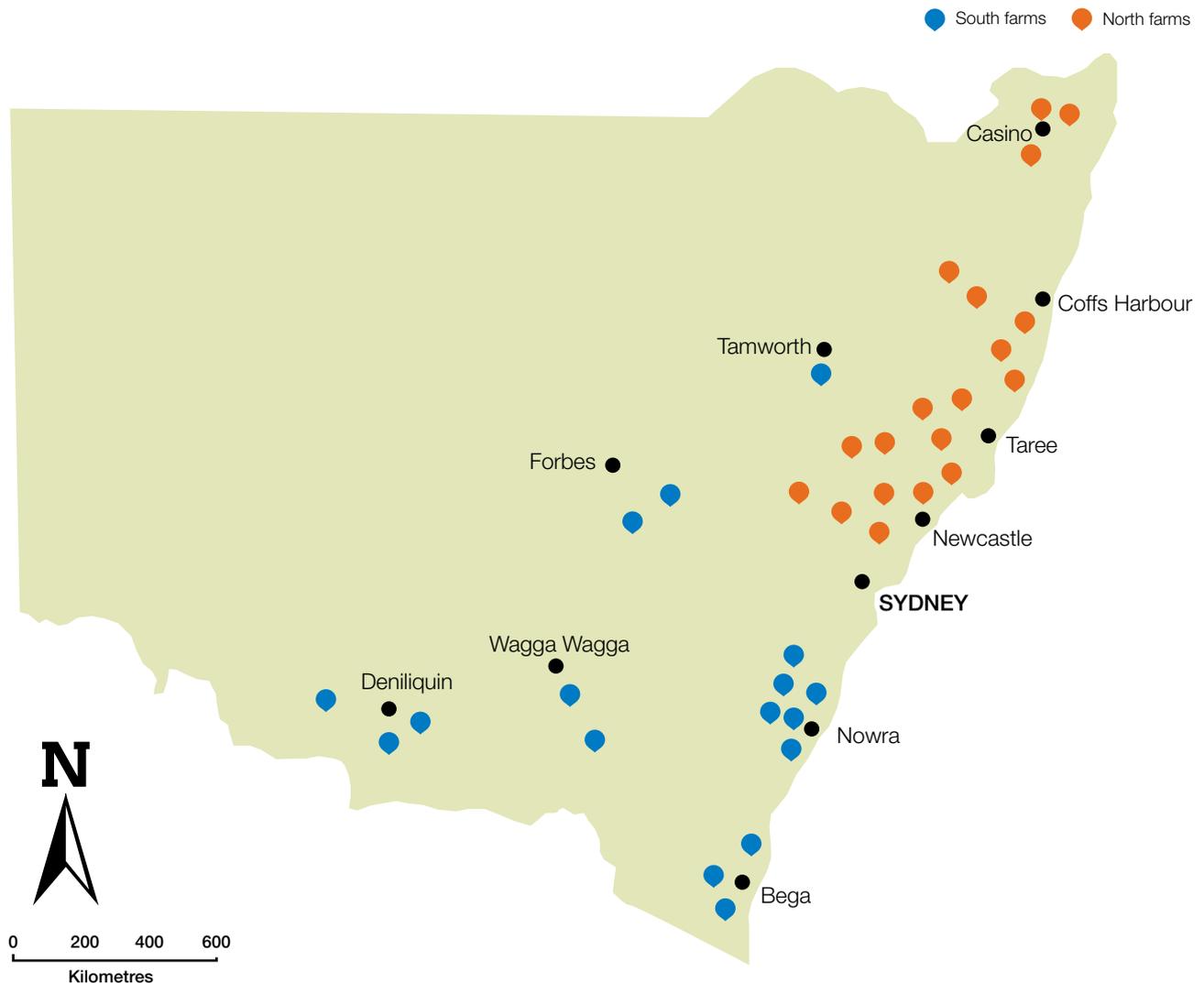
Statewide overview

This section of the report presents the average performance and the range of physical and financial indicators for all 37 participant farms across New South Wales from the North and the South regions.

Farms in the North region range in location from the Queensland border to the Hunter Valley along the coast and hinterland. They are generally characterised as having moderate to high rainfall, limited irrigation, a kikuyu / annual rye grass pasture base with some use of summer forage crops. The Southern group includes farms along the coast from Sydney to the Bega valley, and farms from the inland river systems of NSW, including the Central West and Riverina regions.

They are generally characterised by lower rainfall, mainly irrigated perennial and annual pastures, greater use of forage crops, larger herds and bigger farms. Whilst this grouping reflects general similarities among farm systems and the influences on milk pricing across NSW, there is a wide range of farm characteristics within each group. The approximate location of the participating farms is shown in Figure 3.

Figure 3 Distribution of participant farms in 2014/15 across NSW



2014/15 Seasonal conditions

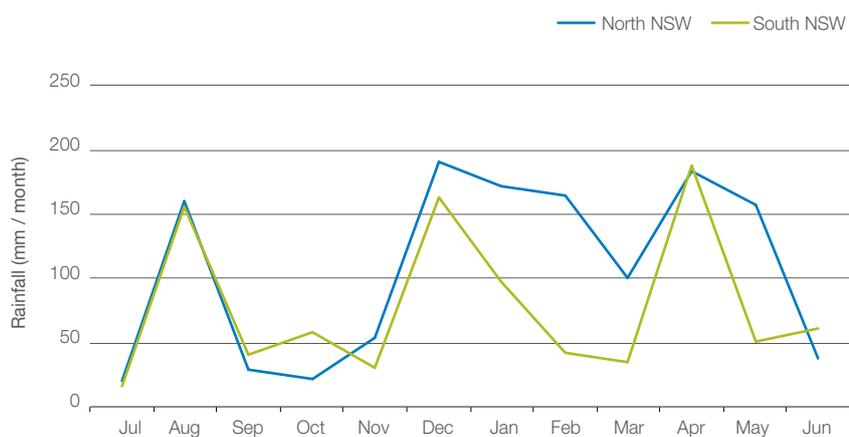
Seasonal conditions in 2014/15 were generally favourable but variable across NSW, with a drier than average spring and a wetter than average autumn.

This created different challenges for dairy farmers in managing home grown fodder, depending on location. Summer and winter were average for rainfall in most regions, and yearly rainfall was higher than the previous year across most farms.

The regional sections provide more detail on the 2014/15 seasonal conditions.

Figure 4 shows the average monthly rainfall pattern in 2014/15 and the differences between the regions.

Figure 4 2014/15 Monthly rainfall



Whole farm analysis

In 2014/15 farms in the South had larger herd size, farm size and higher milk solids per cow and per labour unit than the North farms. The North farms received a higher average milk price than the South.

There were nine new farms in the sample this year, with two dropping out from last year, for a net gain of seven. This year saw an increase in average herd size in the South, while the North decreased a little. Overall the average state herd size rose by 30 cows between 2013/14 and 2014/15.

The above average rainfall across the state boosted the average water use (irrigation plus rainfall) to 1,130 mm compared to last year's (irrigation + rainfall) average of 876 mm. Whilst this higher rainfall was beneficial it was not always effective. There were dry conditions in spring limiting pasture growth, and wet conditions in autumn causing floods in some areas and delays to autumn sowings.

Total usable area was slightly lower across the sample group this year, but milk solids (MS) sold per cow was very similar across both regions. This meant that stocking rate per usable hectare increased slightly, while milk sold in kg MS per hectare increased by 5.7%.

Labour efficiency per kg MS increased by 2% across the state with the greatest increase in the South, a 9% improvement.

Milk price in 2014/15 was the highest received over the four years of the study, both in nominal terms and when inflation is taken into account.

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

Table 1 Farm physical data – State overview

Farm physical parameters	Statewide	North	South
Number of farms in sample	37	20	17
Herd size (max no. cows milked for at least 3 months)	338	259	430
Annual rainfall 2014/15 (mm)	1,130	1,291	940
Water used (irrigation + rainfall) (mm/ha)	1,268	1,430	1,076
Total usable area (hectares)	287	215	372
Stocking rate (milking cows per usable hectare)	1.2	1.3	1.1
Milk sold (kg MS/cow)	506	477	540
Milk sold (kg MS/ha)	602	606	597
Milk price received (\$/kg MS)	\$7.46	\$7.62	\$7.28
Labour efficiency (milking cows/FTE)	77	68	86
Labour efficiency (kg MS/FTE)	38,200	32,189	45,271

Farm financial performance

Figure 5 below 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 category can be found in Table 2.

Gross farm income

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

While Figure 5 shows how much milk income dominates gross income, other sources are still important to the farm business. Across the state, income from sources other than milk accounted for 11% of gross farm income, up from 10% last year. This was mainly driven by an increase in fodder inventory profit and was similar across both regions in 2014/15.

There was some variation in gross income per kilogram of milk solids between the two regions, mainly due to differences in milk price. The average state milk price was \$7.46 / Kg MS, a 4% increase over last year. Average milk price in the North was \$7.62 /kg MS and in the South it was \$7.28 /kg MS.

Variable costs

Variable costs are costs directly associated with production. Examples include 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).

Total feed costs, including home grown feed, purchased feed and agistment, accounted for 85% of total variable costs on average for the state, which equated to \$3.55/kg MS. See Appendix Table 6 for a breakdown of variable costs as a percentage of total (variable plus overhead) 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 \$4.28/kg MS, an 8% increase from 2013/14.

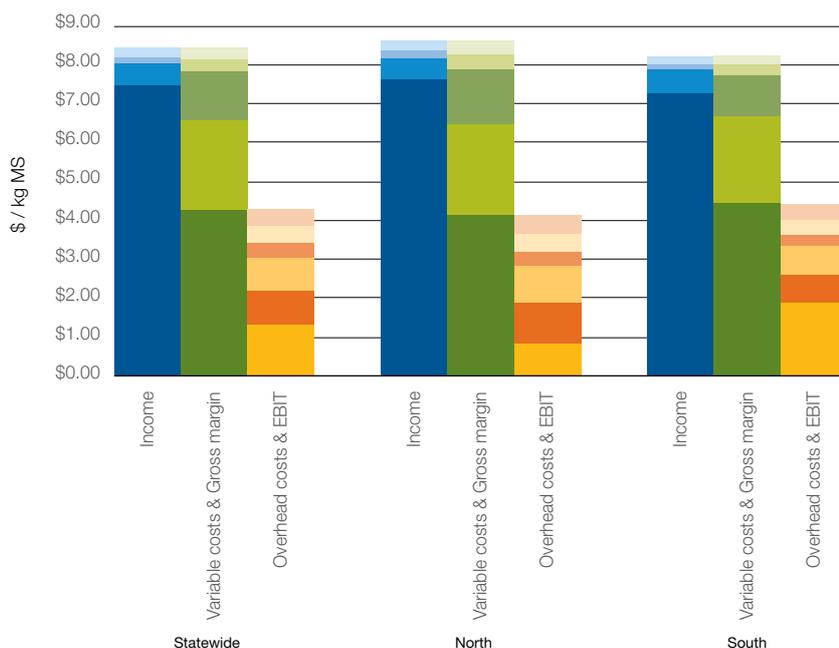
Overhead costs

Overhead costs or 'fixed costs' are relatively unresponsive to small changes in the scale of operation of a business. Examples include 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 share farmer who owns assets in the business. The imputed labour cost is calculated as \$25 per hour of imputed labour performed by the owner operator, family members or share farmers with assets.

The average total overhead costs this year was \$2.96/kg MS compared with \$3.05/kg MS in 2013/14. The North maintained similar overhead costs this year; the South reduced their overhead costs from \$2.69/kg MS to \$2.55/kg MS.

Table 2 shows that in 2014/15 the North had higher average variable costs as well as higher average overhead costs on a per kilogram of milk solids basis compared to the South, similar to last year.

Figure 5 Average farm financial performance per kilogram of milk solids



See Table 2 for the legend on Figure 5

Table 2 Average farm financial performance per kg milk solids and cents per litre – Statewide

Farm income and cost category	Statewide		North		South	
	kg MS	c/l	kg MS	c/l	kg MS	c/l
Income						
Feed inventory change	\$0.24	1.8	\$0.24	1.8	\$0.23	1.7
Other farm income	\$0.17	1.2	\$0.20	1.4	\$0.13	1.0
Livestock trading profit	\$0.58	4.2	\$0.55	4.0	\$0.61	4.5
Milk income (net)	\$7.46	54.1	\$7.62	54.7	\$7.28	53.4
Total income	\$8.44	61.3	\$8.61	61.9	\$8.25	60.6
Variable costs						
Shed cost	\$0.29	2.1	\$0.36	2.6	\$0.21	1.6
Herd cost	\$0.32	2.3	\$0.35	2.5	\$0.30	2.1
Home grown feed cost	\$1.26	9.2	\$1.43	10.3	\$1.06	7.8
Purchased feed and agistment	\$2.29	16.5	\$2.35	16.7	\$2.22	16.2
Total variable costs	\$4.16	30.1	\$4.48	32.1	\$3.79	27.7
Gross margin						
per kilogram of milk solids	\$4.28	31.2	\$4.13	29.8	\$4.46	32.9
Overhead costs						
All other overheads	\$0.44	3.1	\$0.46	3.3	\$0.40	3.0
Repairs and maintenance	\$0.42	3.0	\$0.46	3.3	\$0.37	2.7
Depreciation	\$0.36	2.7	\$0.40	2.9	\$0.32	2.4
Employed labour	\$0.85	6.2	\$0.94	6.8	\$0.75	5.5
Imputed labour	\$0.89	6.4	\$1.05	7.5	\$0.70	5.1
Total overhead costs	\$2.96	21.4	\$3.31	23.8	\$2.55	18.7
Earnings before interest and tax						
per kilogram of milk solids	\$1.32	9.8	\$0.82	6.0	\$1.91	14.2

Cost of production

Total cost of production is calculated from adding variable and overhead costs together. The state average cost of production in 2014/15 was \$7.12/kg MS, which was the same as the previous year. There was a significant difference between the two regions, with the North costs of \$7.79/kg MS and the South \$6.34/kg MS.

Earnings before interest and tax

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

Average EBIT was higher across the state this year at \$1.32/kg MS compared to \$0.89/kg MS in 2013/14. An increase in EBIT occurred across both regions from \$0.29/kg MS to \$0.82/kg MS in the North, and from \$1.57/kg MS to \$1.91/kg MS in the South.

Figures 19 and 30 in the regional sections present the EBIT of sample farms this year alongside the respective previous year's (2013/14) regional average.

Return on assets and equity

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

The average return on assets for participants across the state was 3.5%, up from last year's 2.6%. The return on assets ranged from -3.5% to 17.4% (Figure 7 and Appendix Table 1). Two farms in the North recorded a negative EBIT and therefore a negative return on assets in 2014/15.

Return on equity (ROE) 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 37 farms was 2.8% in 2014/15, up from 1.3% last year, with a large range from -9.3% to 17.4% with a relatively uniform distribution, except for one farm (Figure 8).

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

Figure 6 Average earnings before interest and tax per kilogram of milk solids sold



Figure 7 Distribution of farms by return on assets

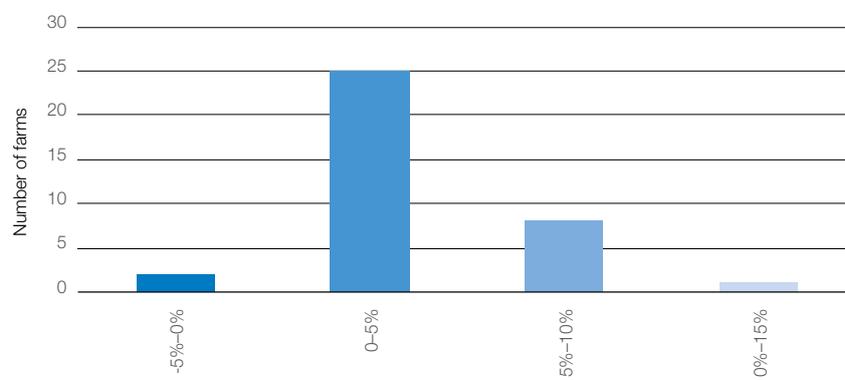
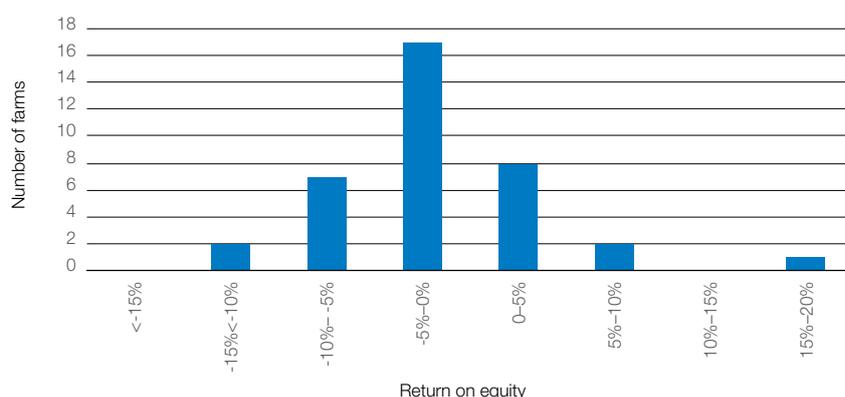


Figure 8 Distribution of farms by return on equity



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 Table A1 for the state and in Appendix Tables B1 and C1 for each region.

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.

This year, all farms in the Dairy Farm Monitor project sourced at least some of their metabolisable energy (ME) from imported feeds and are therefore were somewhat exposed to fluctuations in prices and supply in the market for feed. In 2014/15 on average, both regions sourced a similar proportion of their diet from imported feed compared to 2013/14.

This year there was effectively no change in equity levels across the state with an average of 76%. Caution should be exercised when comparing equity between years as there had been a change of farms in the sample.

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,

\$0.59 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 servicing ratio shows interest and lease costs, as a proportion of gross farm income, reported as a percentage. The ratio of 7% this year is slightly lower than last year. It indicates that on average farms repaid \$0.07 of every dollar of gross farm income to their creditors. Average debt per cow decreased slightly on last year.

The benefit of taking risks and borrowing money can be seen when farm incomes yield a higher return on equity than on their return on assets. In 2014/15, 12 of the 37 (or 32%) of participant farms received a return on equity greater than their return on assets; which was an increase from 2013/14, where only eight of 30 farms were able to achieve this.

The higher the risk indicator (or lower with 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.

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

Table 3 Risk indicators – statewide and by region

	Statewide	North	South
Cost structure (proportion of total costs that are variable costs)	59%	58%	60%
Debt servicing ratio (percentage of income as finance costs)	7%	7%	7%
Debt per cow	\$4,335	\$4,091	\$4,623
Equity percentage (ownership of total assets managed)	76%	78%	73%
Percentage of feed imported (as a % of total ME)	42%	41%	43%

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.

Grazed pasture made up 50% of the diet in cows across both regions in NSW in 2014/15, with 33% of the diet coming from concentrates. Farms in both regions also sourced around 17% of ME from hay and silage.

Appendix Table 3 provides further information on purchased feed.

The average estimated home grown feed consumed per milking hectare is shown in Figure 10. Both Figures 9 and 10 were estimated using Victorian DEDJTR's Pasture Consumption Calculator, which is also available online at 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 for 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 2014/15 was higher than in 2013/14 across both regions, indicating the better seasonal conditions. The North directly grazed 6.4 t DM/ha, and conserved 1.8 t DM/ha. The South consumed an average of 6.7 t DM/ha of direct grazed pasture and conserved 1.8 t DM/ha.

Appendix Table 2 gives estimates of quantity of home grown feed consumed per milking hectare of sample farms across the state. The graph in Figure 10 accounts only for the consumption of pasture that occurred on the milking area whether by milking, dry or young stock.

Several of the farms in the project grew fodder crops for silage or grain on the non-milking area. These tonnages were calculated as part of the total feed produced on the farm usable area, but may not be captured as home grown feed consumed on the milking area. So some farms may appear as low consumers of pasture by direct grazing, but may actually grow and consume large tonnages of fodder over the whole farm or usable area.

Figure 9 Sources of whole farm metabolisable energy

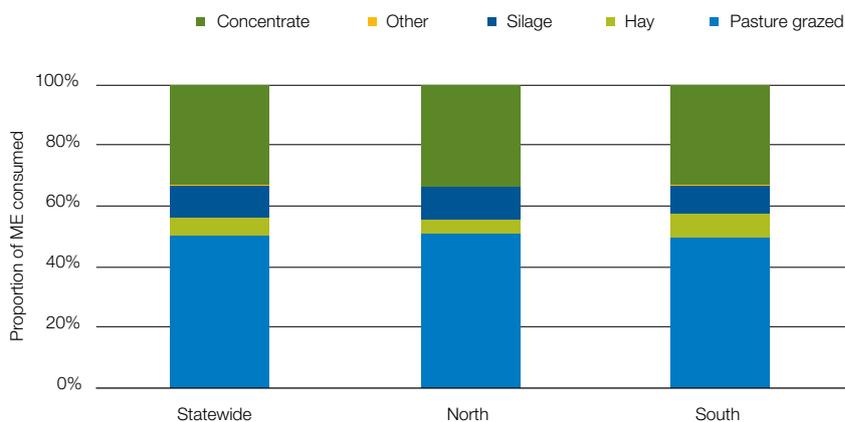
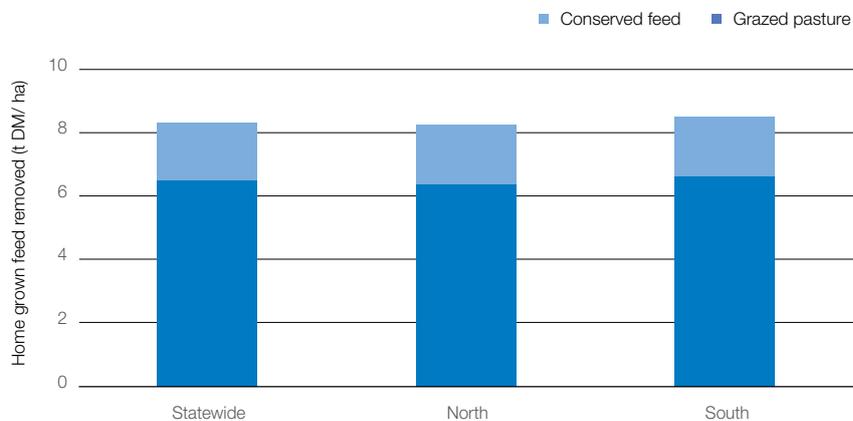


Figure 10 Estimated tonnes of home grown feed consumed per milking hectare



Fertiliser application

Application of nutrients between 2014/15 and the previous year did not vary greatly in the North region, but increased in the South region. Average fertiliser usage for the State was: nitrogen at 108 kg/ha, phosphorus 14 kg/ha, potassium at 22 kg/ha, and sulphur at 16 kg/ha.

The South farms on average used 87 kg/ha of nitrogen this year compared to only 47 kg/ha last year, an 80% increase and reflecting the better growing conditions in 2014/15.

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 fertiliser application for each region.

In 2014/15 total pasture harvested quantities per milking hectare were higher than that of 2013/14 reflecting the impact of the higher rainfall and better seasonal conditions.

Figure 11 Nutrient application per hectare

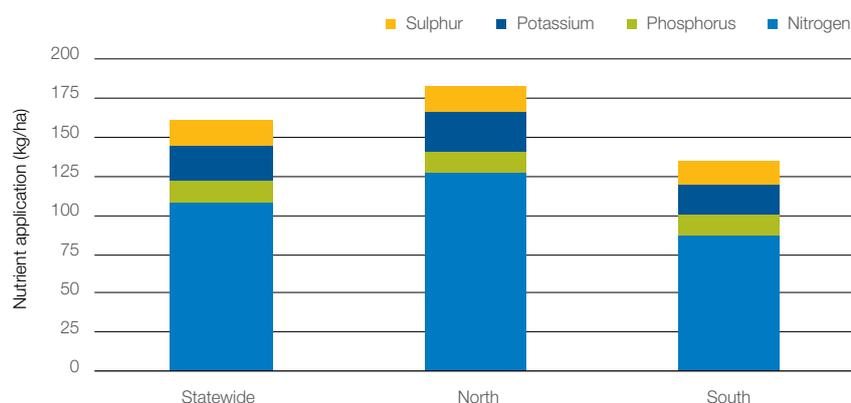
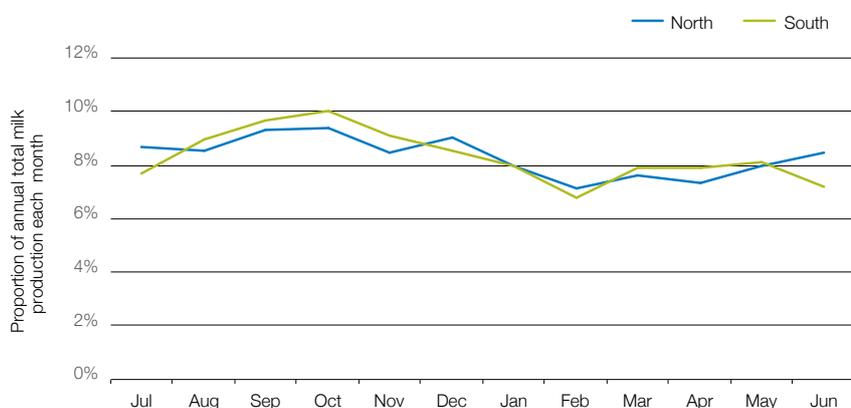


Figure 12 Monthly distribution of milk solids sold



Milk sold

Average distribution of monthly milk sold across both regions of NSW reflects the trend towards a flatter milk supply required by processors for the liquid milk market. While production is very similar for most of the year it can be seen that this year farms in the South produced more of their milk in the spring period than farms in the North (Figure 12).

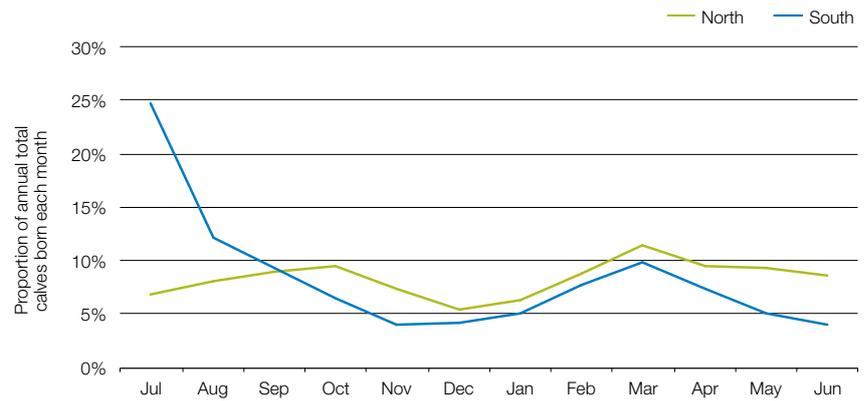
The North in 2014/15 had a drop in production in autumn relative to the South, reflective of the wetter conditions for farms in that region.

Calving pattern

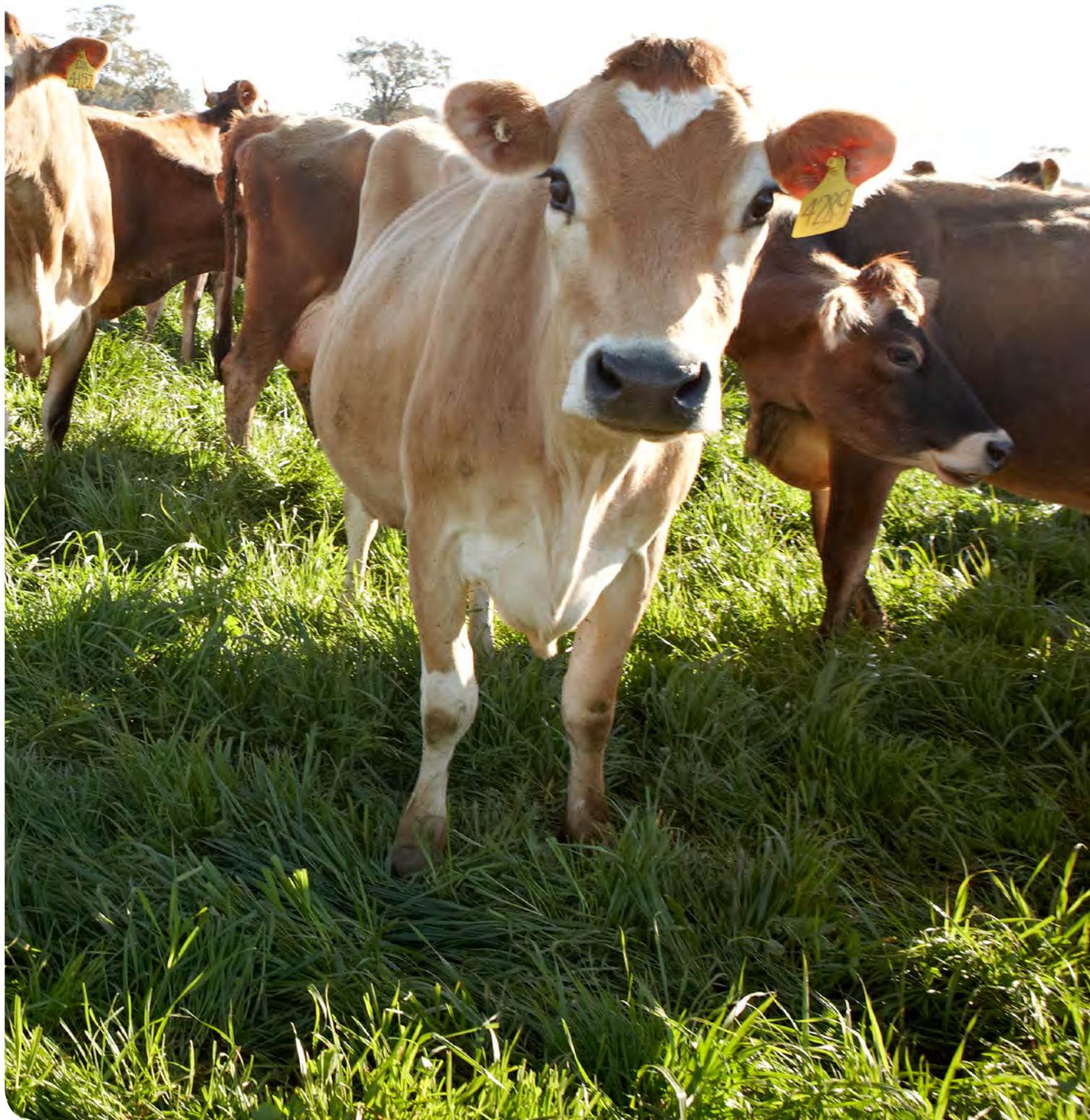
In order to achieve the milk production curve shown in Figure 12, cows need to be calving all year round, and this is evident in the graph of monthly calving pattern in Figure 13. The South farms this year showed a peak calving period in spring and another smaller peak in autumn.

Calving occurs throughout the hotter summer months in both regions, although in the South this is reduced to below 5% of the annual total of calves born in each of the summer months.

Figure 13 Monthly distribution of calves born



The North



The North

Farms NN0022 to NN0026 were new to Dairy Farm Monitor Project this year. Please refer to page 3 for notes on the presentation of data.

2014/15 Seasonal conditions

2014/15 provided generally favourable operating conditions for most farmers in the North. The year began with average winter rainfall and temperatures, and good rainfall in early spring. Conditions then turned dry with below average rainfall and hot conditions, which cut short spring pasture growth. The region experienced a fairly normal summer, but then above average rain fell in April and May. The Hunter Valley and some northern coastal regions experienced major flooding and disruption to dairy operations.

Most participant farms received close to their long term average rainfall this year although this was characterised by a drier than normal spring and a wet autumn (Figure 14).

Participant dairy farmers in the North received an average milk price of \$7.62/kg MS sold this year, 6% higher than last year's average milk price of \$7.17/kg MS.

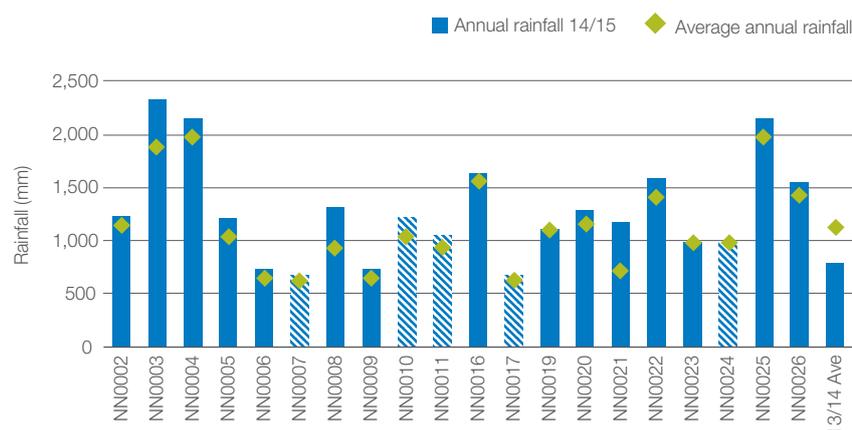
Good prices were received for cull cattle, thus improving the cash flow position for some farmers.

The good season allowed for an accumulation of fodder conserved in the North this year. Fodder inventory changes were positive on 16 out of the 20 North farms, meaning these farmers had more feed on hand at the end of the year than they did at the beginning. Average feed inventory change was \$0.24/kg MS.

The average cost of concentrates this year was \$434/t DM, slightly down from \$443/t DM last year.

North farmers also fed more purchased feed per milker at 2.4 t DM/head, compared to 2.3 t DM/head in the previous year. Half of the 20 North farms purchased hay in 2014/15, at an average price of \$388/t DM.

Figure 14 2014/15 annual rainfall and long term average rainfall – North



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

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 top 25% of farms (ranked by return on assets) were within the middle 50% of the North dataset for most physical parameters except for usable hectares and labour efficiency. They also had a lower average rainfall than the middle group. As an individual factor, this does not cause these farms to be placed in the top 25%. The top

25% performers sold 4% milk solids per cow more than the average of 477 kg MS/cow. However, the top performers were close to average on milk solids sold per hectare at 609 kg MS/ha. Labour efficiency ranged from 20,000 to 45,000 kg MS/full time equivalent (kg MS/FTE). This indicates that some used labour more efficiently than others.

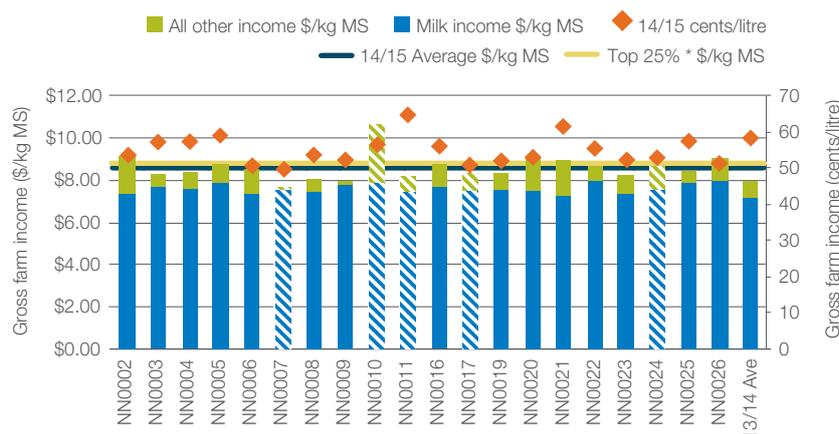
Table 4 Farm physical data – North

Farm physical parameters	North Average	Q1 to Q3 range	Top 25% average
Annual rainfall 14/15 (mm)	1,291	986–1,565	923
Water used (irrigation + rainfall) (mm/ha)	1,430	1,097–1,518	1,162
Total usable area (hectares)	215	113–241	328
Milking cows per usable hectare	1.3	0.9–1.6	1.2
Milk sold (kg MS/cow)	477	409–528	494
Milk sold (kg MS/ha)	606	430–725	609
Home grown feed as % of ME consumed	59%	55%–65%	61%
Labour efficiency (milking cows/FTE)	68	59–74	84
Labour efficiency (kg MS/FTE)	32,189	26,968 - 35,791	40,856

Gross farm income

Gross farm income includes all farm income, whether that is income from milk sales, changes in inventories of stock or feed, or cash income from livestock trading. The average gross farm income of \$8.61/kg MS included milk income (\$7.62/kg MS) plus all other income associated with the dairy business operation (\$0.99/kg MS). Figure 15 shows this year's average gross farm income was 8% higher than last year's average. The higher milk price received contributed to most of this change, but other farm income also increased by \$0.15/kg MS from last year. The higher prices for cull cattle contributed to this figure.

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 increased slightly this year to 606 kg MS/ha (8,447 litres/ha), shown as the yellow line in Figure 16. The range this year was between 252 kg MS/ha and 1,045 kg MS/ha (3,570 to 15,250 litres/ha).

The region's top 25% of performers on a return on assets basis are represented by the striped bars in Figure 16. The top 25% average was almost identical to the average for the North, shown by the blue line. This suggests that milk solids sold per hectare is not closely correlated with return on assets, and those top performers have other attributes that contributed to their results.

Average milk solids sold per cow were similar to last year, at 544 kg MS/cow, with a range of 323kg MS/cow to 572 kg MS/cow.

Variable costs

Variable costs include herd, shed and feed costs. On average, variable costs increased slightly in 2014/15 to \$4.48/kg MS (32.1 c/l), up from \$4.35/kg MS last year. Variable costs ranged widely from \$3.88/kg MS to \$5.03/kg MS (25 to 40 c/l) for farms in the North, shown as the green bars in Figure 17. Home-grown plus purchased feed costs were clearly the major variable costs (refer to Table 5) accounting for 50% of total production costs.

A breakdown of variable costs for the individual businesses on a dollar per kilogram of milk solids sold basis is shown in Appendix Table B4.

Overhead costs

Overhead costs are those that do not vary greatly with the level of production. The Dairy Farm Monitor Project includes cash overheads such as rates and insurance as well as non-cash costs such as imputed owner operator and family labour and depreciation of plant and equipment. The overhead costs this year ranged from \$2.08 /kg MS to \$4.79/kg MS (shown as blue bars in Figure 17).

The average overhead costs for 2014/15 were \$3.31/kg MS (23.8 c/l); very similar to that recorded last year.

Farms that regularly perform well do so by keeping overhead costs low and managing variable costs according to the season. This year, all farms in the top 25% had lower than average overhead costs. These farms also managed to keep variable costs in-check this year.

The main overhead cost category is labour, both employed and imputed; followed by depreciation and repairs and maintenance. Imputed labour for farm owners, family members and share farmers is valued at \$25/hr for all hours worked. The percentage breakdown of the individual totals expressed as percentages is presented in Appendix Table B6.

Cost of production

Cost of production indicates the cost of producing a kilogram of milk solids. It is calculated as variable plus overhead costs (cash and non-cash) and accounts for changes in fodder inventory and livestock trading losses. Including changes in fodder inventory is important to establish the true costs to the business. The changes in fodder inventory count for the net cost of feed from what was fed out, conserved, purchased and stored over the year. Livestock trading loss is also considered in the cost of production where there is a net livestock depreciation or reduced stock numbers. Table 5 shows that the average cost of production decreased marginally this year to \$7.55/kg MS (54.1 c/l) from \$7.66 in 2013/14. The top 25% of farms kept their costs 18% lower than average at \$6.12/kg MS (44 c/l).

Figure 16 Milk solids sold per hectare – North

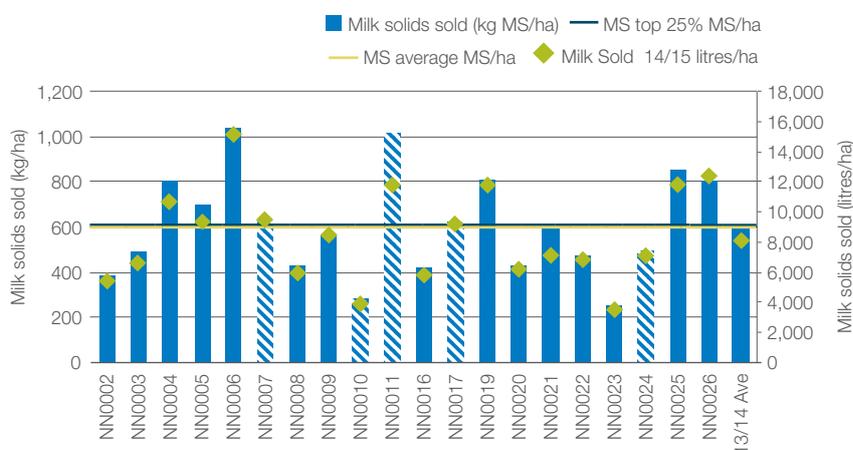


Figure 17 Whole farm variable and overhead costs per kilogram of milk solids – North

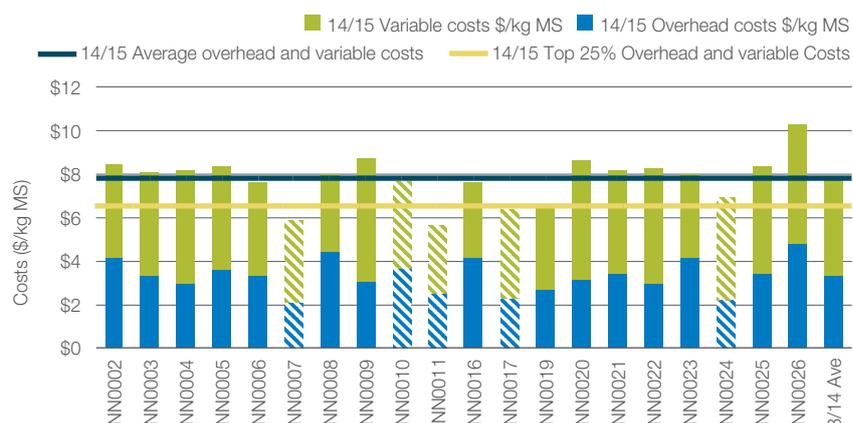


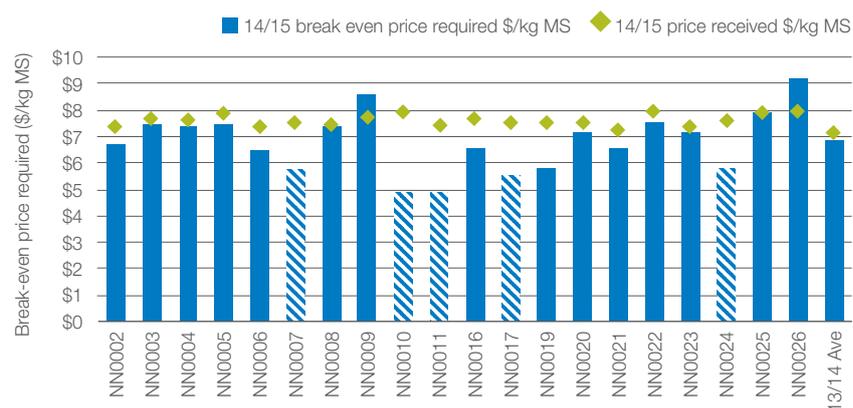
Table 6 Cost of production – North

Farm costs	North average		Q1 to Q3 range	Top 25% average	
	kg MS	c/l	kg MS	kg MS	c/l
Livestock trading loss	\$0.01	0.0	\$0.00 - \$0.00	\$0.02	0.1
Feed inventory change	-\$0.24	-1.8	-\$0.33 - \$-0.06	-\$0.40	-2.8
Changes in inventory	-\$0.24	-1.7	-\$0.33 - \$-0.04	-\$0.37	-2.6
Variable costs					
Herd costs	\$0.35	2.5	\$0.28 - \$0.42	\$0.35	2.6
Shed costs	\$0.36	2.6	\$0.26 - \$0.39	\$0.32	2.3
Purchased feed and adjustment	\$2.35	16.7	\$1.86 - \$2.71	\$2.02	14.3
Home grown feed cost	\$1.43	10.3	\$1.15 - \$1.58	\$1.26	9.1
Total variable costs	\$4.48	32.1	\$3.87 - \$4.89	\$3.95	28.2
Overhead costs					
Rates	\$0.06	0.5	\$0.04 - \$0.08	\$0.03	0.3
Registration and insurance	\$0.06	0.4	\$0.01 - \$0.09	\$0.04	0.3
Farm insurance	\$0.10	0.7	\$0.05 - \$0.13	\$0.13	1.0
Repairs and maintenance	\$0.46	3.3	\$0.23 - \$0.59	\$0.39	2.8
Bank charges	\$0.04	0.3	\$0.01 - \$0.04	\$0.02	0.2
Other overheads	\$0.20	1.4	\$0.12 - \$0.24	\$0.15	1.0
Employed labour cost	\$0.94	6.8	\$0.47 - \$1.13	\$0.79	5.6
Total cash overheads	\$1.87	13.4	\$1.27 - \$2.26	\$1.57	11.1
Depreciation	\$0.40	2.9	\$0.69 - \$1.28	\$0.33	2.4
Imputed owner/operator and family labour	\$1.05	7.5	\$0.24 - \$0.46	\$0.65	4.9
Total overhead costs	\$3.31	23.8	\$2.81 - \$3.60	\$2.54	18.4
Total cost of production	\$7.55	54.1	\$6.50 - \$8.15	\$6.12	44.0

Break-even price required

The break-even price required for milk is calculated as variable and overhead costs less income other than milk (including livestock trading profit, changes in feed inventory or other income). The difference between the break-even price required and milk income is earnings before interest and tax per kilogram of milk solids. Figure 18 shows that the break-even price required by farms varied from \$4.88/kg MS to \$9.21/kg MS (35 to 59 c/l). The average required break-even price decreased by 8 cents to \$6.80/kg MS this year compared to 2013/14. Milk price received varied from \$7.24/kg MS to \$7.96/kg MS (50 c/l to 64 c/l), with an average of \$7.62/kg MS (54.7 c/l). The gap between price received and price required to break-even meant that most farms were able to cover their production costs.

Figure 18 Break-even price required per kilogram of milk solids sold – North



Earnings before interest and tax

Earnings before interest and tax (EBIT) are gross income less variable and overhead costs. Figure 19 shows a wide range in EBIT, from $-\$1.26/\text{kg MS}$ to $\$3.00/\text{kg MS}$ sold. The average EBIT across farms this year improved considerably to $\$0.82/\text{kg MS}$ (6 c/l) with the top 25% farms recording an average of $\$1.81/\text{kg MS}$ (16.2 c/l). This compares to an average EBIT of $\$0.29/\text{kg MS}$ and $\$0.67/\text{kg MS}$ for the top 25% in 2013/14. Businesses in the top 25% are shown by the lighter coloured blue bars and demonstrate that having a high EBIT $\$/\text{kg MS}$ has mostly translated into a higher return on assets this year, as seen when comparing Figures 19 and 20.

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 20 and 21 were calculated excluding capital appreciation. For return on equity including capital appreciation refer to Appendix Table B1.

The return on assets was higher for participant farms this year, with an average of 1.9%, up from 0.8% in the previous year. While two farms had a negative return on assets, the Q1-Q3 range was positive ranging from 0.6% to 4.4% with the top 25% achieving an average of 5.4%.

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 was 0.4% compared with -1.7% last year. There was a wide range of return on equity reflecting the various capital structures of businesses in northern NSW. This year the top 25% performers achieved an average of 5.1% return on equity.

Figure 19 Whole farm earnings before interest and tax per kilogram of milk solids – North



Figure 20 Return on assets – North

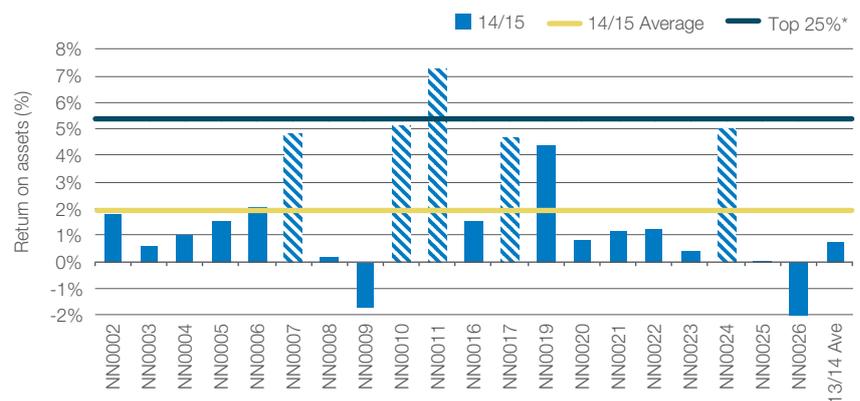
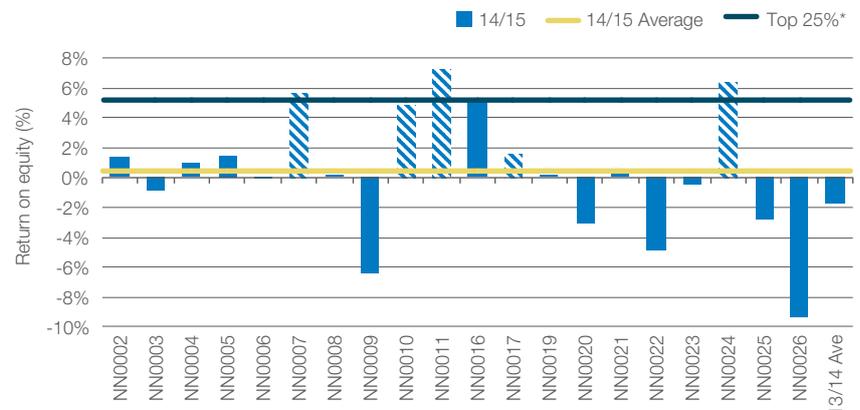


Figure 21 Return on equity – North



Feed consumption and fertiliser

Although farms in the North exhibited a wide range of feeding systems, directly grazed pasture was the main source of metabolisable energy on the majority of the farms in this region.

Feed consumption

The relative contribution of each feed type to the metabolisable energy (ME) consumption on each farm is shown in Figure 22. The broad range of different sources of ME used on individual farms is evident. Grazed pasture supplied 50% or more of ME consumed on 13 of the 20 farms. Participant farms in the North sourced between 12% and 53% of the ME consumed from concentrates, with an average across the group of 33%. All participant farms bar one fed silage as part of their ME consumed with the range of between 3% and 30%.

Hay accounted for only 5% of ME consumed.

Figure 23 shows the estimated home grown feed consumed per milking hectare for farms in the North.

Total pasture harvested for the North on average increased from the 7.1 t DM/ha harvested in 2013/14 to 8.2 t DM/ha in 2014/15. This included an average of 6.4 t DM/ha directly grazed and 1.8 t DM/ha conserved.

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 the Statewide Overview or in Appendix D.

Figure 22 Sources of whole farm metabolisable energy – North

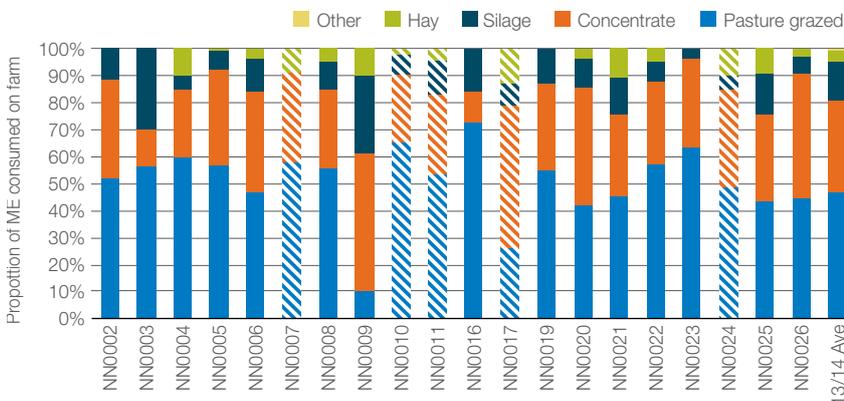
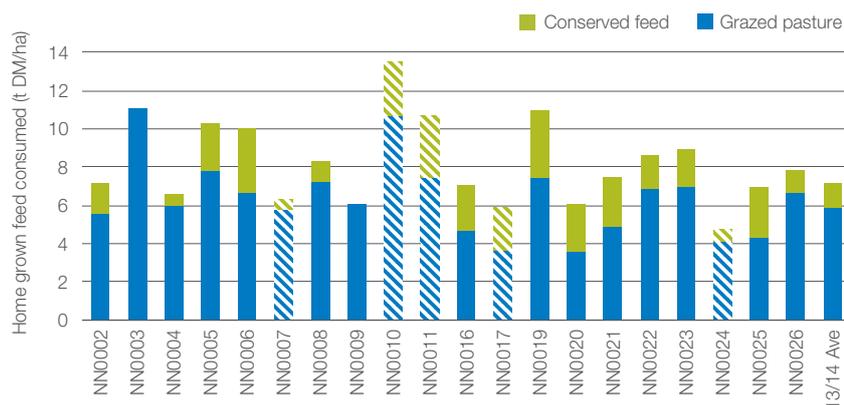


Figure 23 Estimated tonnes of home grown feed consumed per milking hectare – North

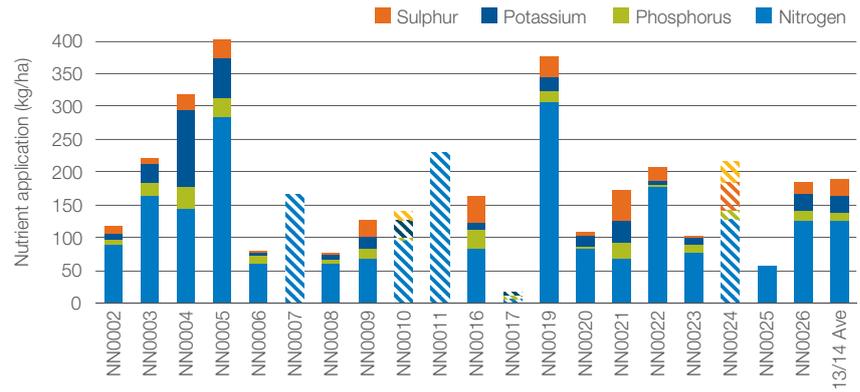


Fertiliser application

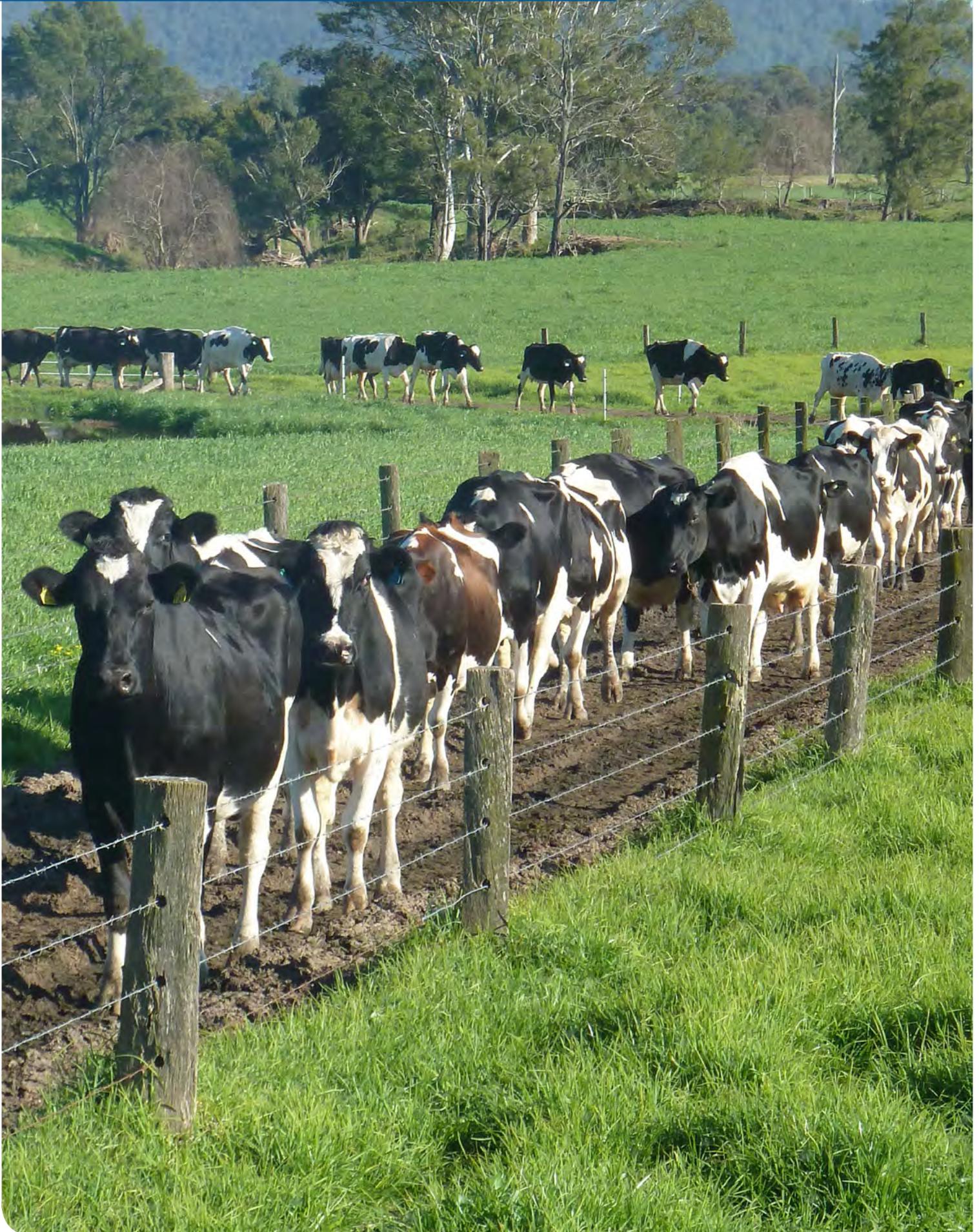
All farms in the North applied fertiliser to their crops and pasture. Farms in the North maintained a similar level of use of nitrogen and phosphorus in 2014/15, but decreased their use of potassium and sulphur compared to last year.

Average nitrogen use was 124 kg/ha, phosphorus 12 kg/ha, potassium 22 kg/ha and sulphur 16 kg/ha this year.

Figure 24 Nutrient application per hectare – North



The South



The South

Farms SN0019 to SN0022 were new to the project this year. Please refer to page 3 of the report for notes on the presentation of data.

2014/15 Seasonal conditions

Most of the Southern region experienced reasonably good seasonal conditions throughout 2014/15, although those localities on the eastern side of the ranges fared better than further inland, with close to or above average rainfall throughout the year. Spring and autumn were generally drier inland with lower pasture growth rates, leading to fodder reserves being fed out earlier.

Most participant farms received close to or above their long term average rainfall this year although this was characterised by a drier than normal spring and a wet autumn (Figure 25).

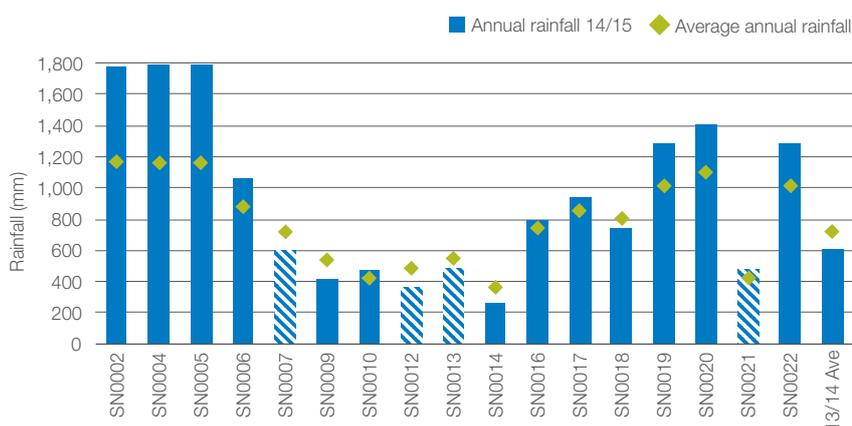
Participant dairy farmers in the South received an average milk price of \$7.28/kg MS sold (60.6 c/l) this year, 2% higher than last year's average milk price of \$7.12/kg MS.

Good prices were received for cull cattle which helped improve the cash flow position for some farmers.

The good season allowed for an accumulation of fodder conserved in the South this year. Fodder inventory changes were positive on 14 out of the 17 South farms, meaning these farmers had more feed on hand at the end of the year than they did at the beginning. Average feed inventory change was \$0.23/kg MS.

The average cost of concentrates this year was \$389/t DM, slightly up from \$377/t DM last year. South farmers fed less purchased feed per milker at 2.8 t DM/head compared to 2.9 t DM/head in the previous year. Fourteen of the 17 South farms purchased hay in 2014/15, at an average price of \$279/t DM.

Figure 25 2014/15 Annual rainfall and long term average rainfall – South



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

Whole farm analysis

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

The physical characteristics of the top 25% of farms (ranked by return on assets) generally lie within the middle 50% of the South dataset. The key characteristics where the

top 25% have higher performance were labour efficiency (both on a per cow and per kg MS basis) and kilograms of milk solids sold per hectare (kg MS/ha).

Table 6 Farm physical data – South

Farm physical parameters	South average	Q1 to Q3 range	Top 25% average
Annual rainfall 14/15 (mm)	940	480 - 1,281	482
Water used (irrigation + rainfall) (mm/ha)	1,076	810 - 1,411	718
Total usable area (hectares)	372	242 - 430	579
Milking cows per usable hectare	1.1	1.00 - 1.00	1.1
Milk sold (kg MS/cow)	540	487 - 587	543
Milk sold (kg MS/ha)	597	488 - 641	626
Home grown feed as % of ME consumed	57%	0% - 100%	63%
Labour efficiency (milking cows/FTE)	86	62 - 92	105
Labour efficiency (kg MS/FTE)	45,271	32,820 - 55,084	54,379

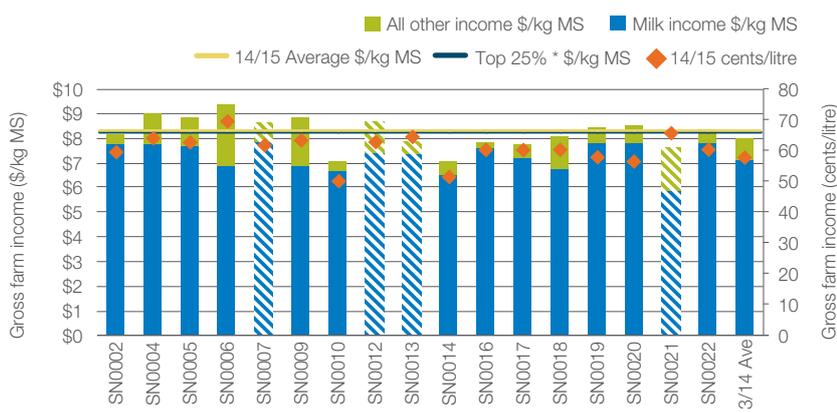
Gross farm income

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, interest from bank accounts and rebates or grants. Changes in inventories of stock or feed are also accounted for in gross farm income.

Figure 16 shows that gross farm income in the South ranged from \$7.05/kg MS to \$9.41/kg MS with an average of \$8.25/kg MS (60.5 c/l). This was an increase from last year's average gross farm income of \$8.00/kg MS, primarily due to an improvement in milk price, but also due to an increase in fodder inventory and higher prices for cull cattle. Average milk price was \$7.28/kg MS, up from \$7.12/kg MS in 2013/14, and ranged from \$5.90/kg MS to \$7.87/kg MS.

While some farms received high gross income, not all of these farms were in the top 25%. This suggests that while gross income has an influence, this alone does not translate to high profitability and other factors of the business performance need to be examined.

Figure 26 Gross farm income per kilogram of milk solids – South



Milk solids sold

There was a large variation in the amount of milk solids sold per hectare with a range of 288 kg MS to 1,005 kg MS/ha (3,865 to 14,762 litres/ha) reported. Part of this variation can be accounted for by farms having runoff areas and out paddocks that are included as part of the total usable area.

The top 25% farms achieved 625 kg MS/ha (8,193 l/ha) in the South compared to the regional average of 597 kg MS/ha (Figure 27).

The average milk solids sold per cow were similar to last year, at 540 kg MS/cow, with a range between 397 kg MS/cow and 630 kg MS/cow.

Variable costs

Figure 28 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 region ranged from \$2.22/kg MS to \$5.10/kg MS, with an average of \$3.79 /kg MS (27.7 c/l). This was similar to last year's average of \$3.73/kg MS. Feed costs were the major variable cost on South farms, accounting for 53% of total costs. Feed costs were \$3.28/kg MS (24 c/l) this year.

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

Overhead costs

The calculation of overhead costs in the Dairy Farm Monitor project consists of cash and non-cash costs to the dairy business.

Examples of cash overheads include rates, insurance and employed labour, and non-cash overheads including depreciation and imputed owner/operator and family labour.

Figure 28 further highlights the variation in overhead costs per kilogram of milk solids between participant farms, values ranging from \$1.50/kg MS to \$3.51/kg MS. The top 25% recorded lower overhead costs at \$2.12/kg MS compared to the regional average of \$2.55/kg MS (18.7 c/l), which was lower than last year.

The major overhead cost to the average South farm was labour, which included both employed and imputed (owner/operator) labour. Labour costs accounted for 24% of total costs. Repairs and maintenance and depreciation are the other two major overhead cost categories, of which spending on repairs and maintenance remained similar to the previous year at 6% of costs.

Cost of production

Table 7 presents cost of production which includes both variable and overhead costs, as well as changes in fodder inventory and livestock trading losses. Changes in inventory are important to establish the true costs to the business. The changes in fodder inventory count for the net cost of feed from what was fed out, conserved, purchased and stored over the year.

Livestock trading loss is also considered in cost of production; however there was no loss this year for any farms so was not included. Where a positive change in inventory occurred, such as the average of \$0.23/kg MS for 2014/15, it indicates that total fodder reserve level has increased, and so is counted as a cost to the business.

Table 7 shows the average cost of production was \$6.11/kg MS (44.7 c/l), a decrease from last year, with the top 25% of farms lower at \$5.57/kg MS (42.9 c/l). The decrease in cost of production was largely due to a decrease in overhead costs.

Figure 27 Milk solids sold per hectare – South

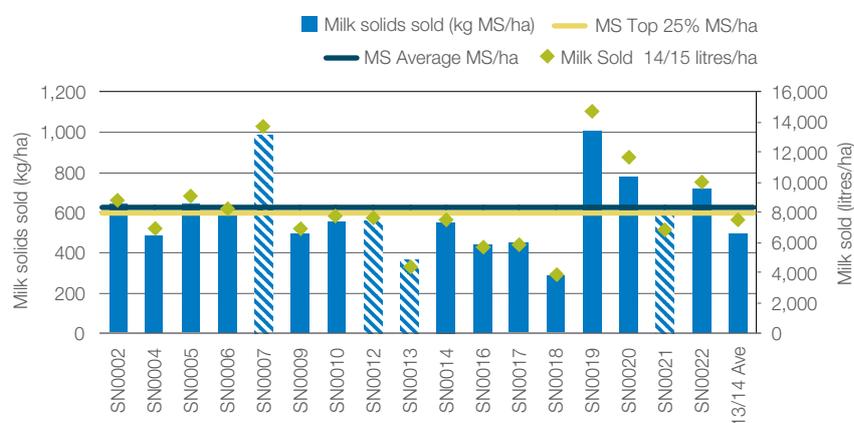


Figure 28 Whole farm variable and overhead costs per kilogram of milk solids – South



Table 7 Cost of production – South

Farm costs	South average		Q1 to Q3 range	Top 25% average	
	kg MS	c/l	kg MS	kg MS	c/l
Livestock trading loss	\$0.00	0.0	\$0.00 - \$0.00	\$0.00	0.0
Feed inventory change	-\$0.23	-1.7	-\$0.3 - \$-0.02	-\$0.23	-1.8
Changes in inventory	-\$0.23	-1.7	-\$0.3 - \$-0.02	-\$0.23	-1.8
Variable costs					
Herd costs	\$0.30	2.1	\$0.19 - \$0.38	\$0.25	1.8
Shed costs	\$0.21	1.6	\$0.19 - \$0.27	\$0.24	1.8
Purchased feed and adjustment	\$2.22	16.2	\$1.77 - \$2.74	\$1.76	13.5
Home grown feed cost	\$1.06	7.8	\$0.71 - \$1.18	\$1.43	11.3
Total variable costs	\$3.79	27.7	\$3.36 - \$4.26	\$3.68	28.4
Overhead costs					
Rates	\$0.07	0.5	\$0.02 - \$0.09	\$0.03	0.2
Registration and insurance	\$0.04	0.3	\$0.01 - \$0.06	\$0.03	0.2
Farm insurance	\$0.07	0.5	\$0.05 - \$0.09	\$0.06	0.5
Repairs and maintenance	\$0.37	2.7	\$0.30 - \$0.47	\$0.30	2.3
Bank charges	\$0.05	0.4	\$0.00 - \$0.03	\$0.08	0.6
Other overheads	\$0.18	1.3	\$0.09 - \$0.26	\$0.19	1.4
Employed labour cost	\$0.75	5.5	\$0.64 - \$0.84	\$0.80	6.1
Total cash overheads	\$1.52	11.1	\$1.20 - \$1.74	\$1.49	11.3
Depreciation	\$0.32	2.4	\$0.26 - \$0.39	\$0.29	2.3
Imputed owner/operator and family labour	\$0.70	5.1	\$0.38 - \$1.05	\$0.34	2.6
Total overhead costs	\$2.55	18.7	\$2.01 - \$2.96	\$2.12	16.2
Total cost of production	\$6.11	44.7	\$5.70 - \$6.92	\$5.57	42.9

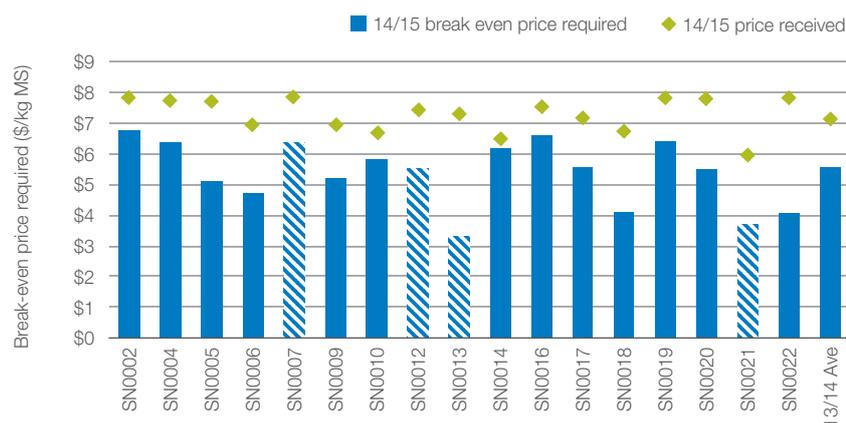
Break-even price required

The break-even price required per kilogram of milk solids sold is calculated as the cost of production less any income from other sources, including livestock trading profit or increase in feed inventory. This is a better relevant risk indicator in dairying than cost of production as it can be compared directly to the price of the main output in the business, that being milk price.

Figure 29 shows that the break-even price required ranged from \$3.32/kg MS to \$6.73/kg MS (27.3c/l to 50.7 c/l) in the South. The average milk price received was \$7.28/kg MS, which was higher than the \$7.12/kg MS received in 2013/14. This was well above the average break-even price required of \$5.37/kg MS.

The difference between the price received and the break-even price required is the earnings before interest and tax per kilogram of milk solids sold. The average earnings before interest and tax were \$1.91/kg MS, which was higher than last year due to the higher milk price and lower costs.

Figure 29 Break-even price required per kilogram of milk solids sold – South



Earnings before interest and tax

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

On average, EBIT per kg MS increased from \$1.56/kg MS in 2013/14 to \$1.91/kg MS (14.2 c/l) in 2014/15 (Figure 30). The higher EBIT was a result of an increase in gross farm income due to the higher milk price and a lower cost of production. The strength of the top 25% performers was highlighted with an average EBIT of \$2.40/kg MS, which was better than the previous year of \$2.04/kg MS.

Return on assets and equity

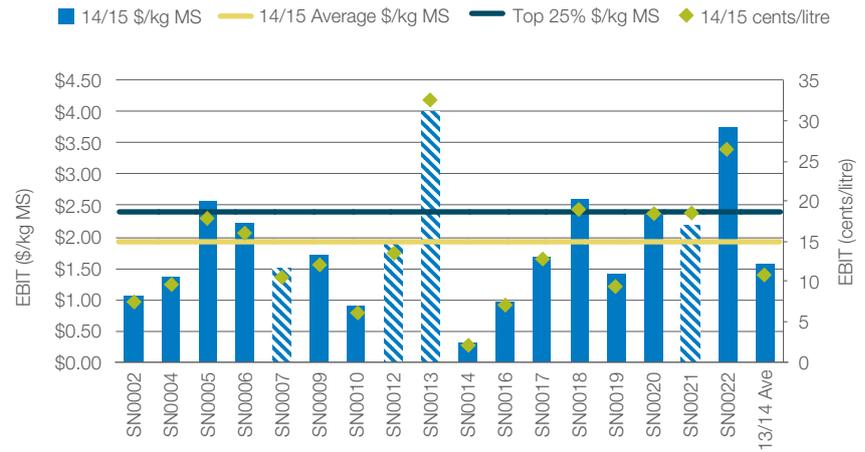
Return on assets is EBIT expressed as a percentage of total assets under management. It is an indicator of the overall earning power of total assets, irrespective of capital structure. Return on equity is a measure of the owner's rate of return on investment. It is calculated as EBIT minus interest and lease costs expressed as a percentage of owner's equity. Figures 31 and 32 were calculated excluding capital appreciation. For return on equity including capital appreciation, as well as individual farm results, refer to Appendix Table C1.

The return on assets for the South region ranged from 1.5% to 17.4%, with an increase in the average from 4.8% last year to 5.3% in 2014/15. The top 25% achieved an average of 10.7% return on assets.

Land value is a major component of the assets under management, and it is worth noting that there is a huge variation in market values for land in the South region. Farm locations include the southern highlands close to Sydney as well as the southern Riverina region where land values have been separated from water entitlement and are relatively low.

This year's return on equity had an average value of 5.7% recorded for the South, which was an increase from an average of 4.7% last year. All farms bar one recorded a positive variation on equity with individual farm variation shown in Figure 32.

Figure 30 Whole farm earnings before interest and tax per kilogram of milk solids – South



The average return on equity of the top 25% of farms was 14.1% in 2014/15, which was higher than the 10.5% reported in 2013/14. Note in Figure 32 the axis has been modified to allow for appropriate presentation

of the range of return of equity exhibited by the South group. Farm SN0013 has a return on equity of 24.9% and the axis does not allow for this to be fully represented.

Figure 31 Return on assets – South

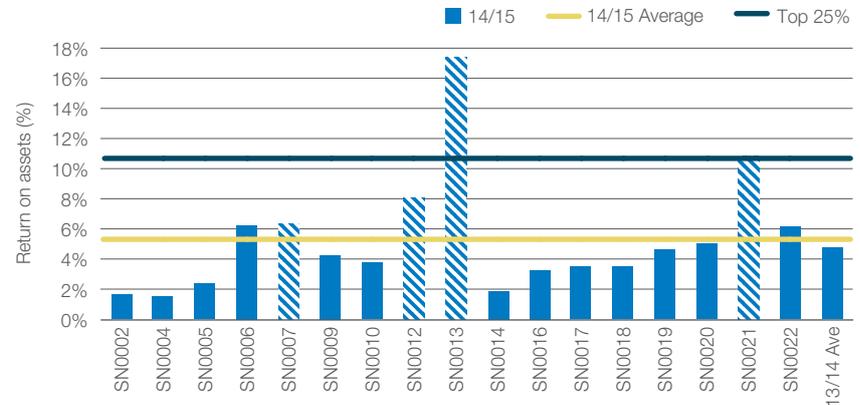
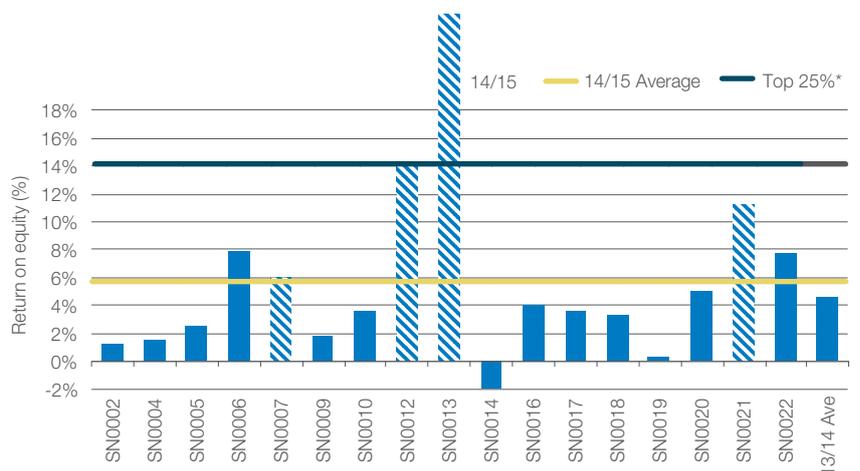


Figure 32 Return on equity – South



Feed consumption and fertiliser

South farms sourced 49% of their metabolisable energy from directly grazed pasture. Concentrates provided about one-third, while home grown conserved feed increased to 21% of metabolisable energy consumed on farm in 2014/15.

Feed consumption

Figure 33 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 was the same as the previous year, at an average of 49%.

Concentrates were the most used supplement contributing to one-third of total ME consumed. The proportion of concentrate feeding remained similar to the previous year despite lower concentrate prices.

The contribution of both silage and hay was also similar with silage at 9% of total ME consumed and hay at 8% of total ME consumed.

Home grown feed consumption is shown in Figure 34. The average total pasture harvested (grazed and conserved) from the milking area was 8.5 t DM/ha, up from 7.3 t DM/ha harvested in 2013/14. The amount of pasture consumed as grazed feed on the milking area this year was of 6.7 t DM/ha, with conserved feed on average of 1.8 t DM/ha in 2014/15, up on the previous year of 1.0 t DM/ha.

This graph only shows pasture and fodder consumed on the milking area. It does not include fodder grown and conserved on the non-milking area. A number of farms grew fodder crops for silage or hay that were additional sources of home grown feed that are not reflected in Figure 34.

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 33 Sources of whole farm metabolisable energy – South

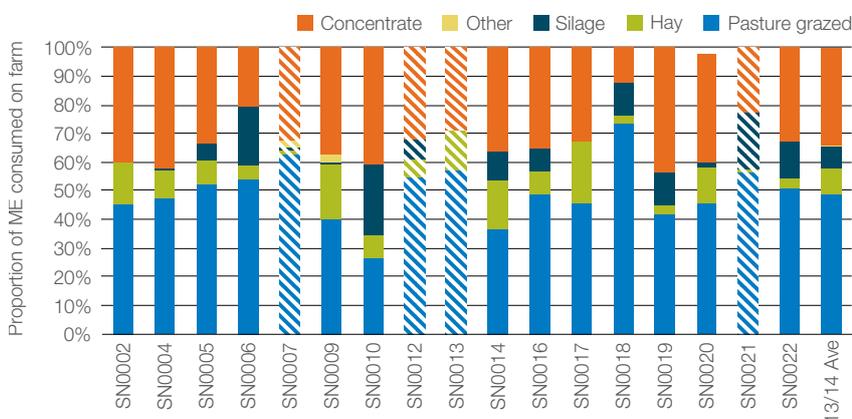
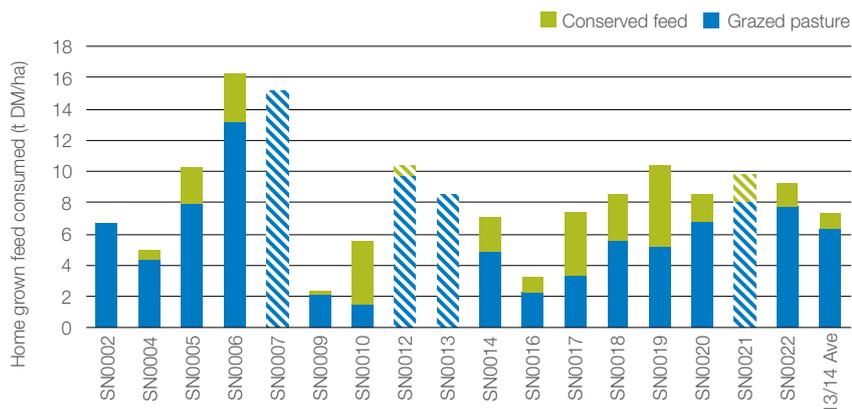


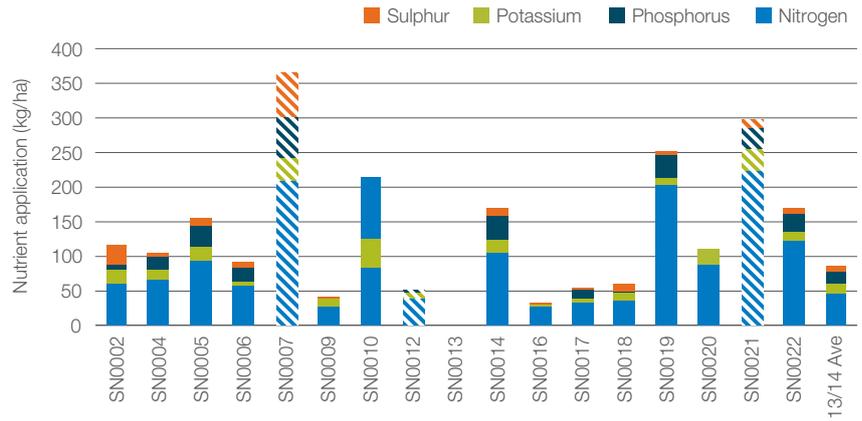
Figure 34 Estimated tonnes of home grown feed consumed per milking hectare – South



Fertiliser application

The proportion of nutrients in fertiliser applied per hectare on farm in 2014/15 is shown in Figure 35. Total average nutrients applied for the year were higher than 2013/14. Rates of nitrogen fertiliser saw the biggest change at 86 kg/ha, up from 47 kg/ha applied in the year before. As in previous years, SN0013 did not apply fertiliser in 2014/15. The individual values relating to Figure 35 can be found in Appendix Table C2.

Figure 35 Nutrient application per hectare – South



Business confidence survey



Expectations and issues

Responses to this business confidence survey were made in July and August 2015 with regard to the 2015/16 financial year and the next five years to 2020/21.

Expectations for business returns

Following better than average profit in the 2014/15 year, expectations for the coming season were positive in the North, with around 80% of farmers predicting an improvement or no change in farm business returns. The sentiment was less buoyant in the South, where 50% expect improvement or no change and 30% expect deterioration.

Responses to the survey were made with consideration to all aspects of farming, including climate and market conditions for all products bought and sold.

While expectations of the coming year were spread across categories, there were regional differences.

More than 50% of the participants in the North had an expectation of improving farm business returns in 2015/16. Whereas only 35% of participants in the South expected an improvement, and 30% expected a deterioration, as shown in Figure 36.

Price and production expectations – milk

Expectations about milk price in 2015/16 were also different between the regions, with 60% in the North expecting no change, while the majority of South farmers expecting a decrease or no change. Intentions for increasing milk production next year were strongly positive across both regions.

Figure 36 Expected change to farm business returns in 2015/16

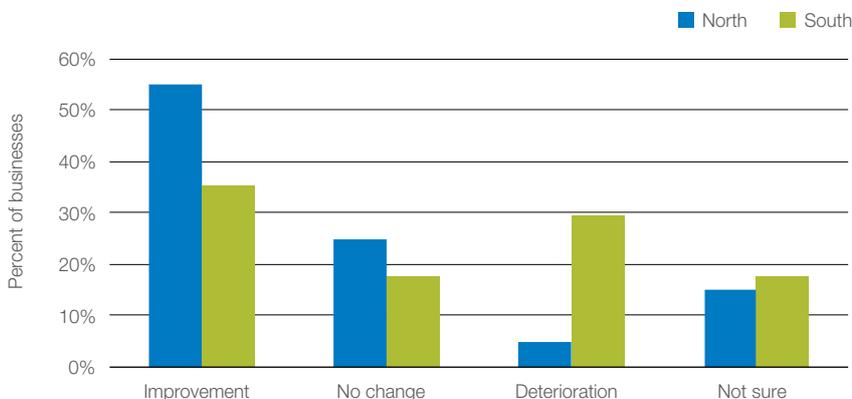
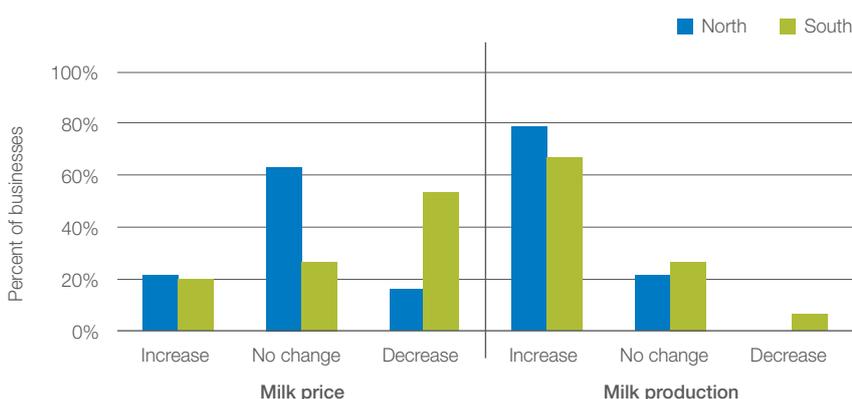


Figure 37 Producer expectations of prices and production of milk in 2015/16



Price and production expectations - fodder

The majority of participating farmers in the North expected fodder prices to increase in 2015/16 (Figure 49), while farmers in the South made no comment or provided an answer of no change. Most North respondents indicated that they expected fodder production to increase in the coming year, while 50% of South expected to increase and 30% expected no change in how much feed would be conserved on farm. Only a few farmers reported that fodder production was expected to decrease on their farms in 2015/16.

Twenty one per cent of participants commented on seasonal variability and the concern of a drier than average spring and summer the coming year given the predicted El Niño event. The effect of this predicted event on fodder prices and production remains to be seen.

Cost expectations

Data presented in Figure 39 represent the expectations of costs for the dairy industry.

The majority of farmers in all categories expected input costs to remain unchanged or increase. Over 60% of the farmers across the state were not expecting changes to repairs and maintenance costs and more than half predicted fuel and oil costs for their farm to remain unchanged in the coming year.

Among the irrigators, 40% predicted an increase in irrigation costs to their business.

Figure 38 Producer expectations of prices and production of fodder in 2015/16

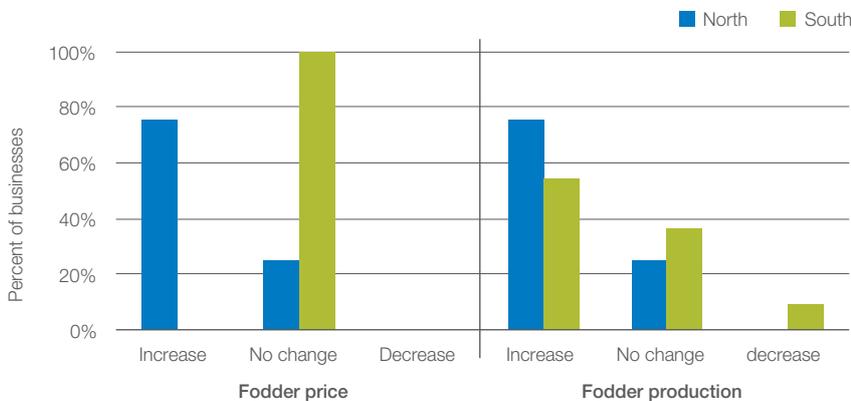
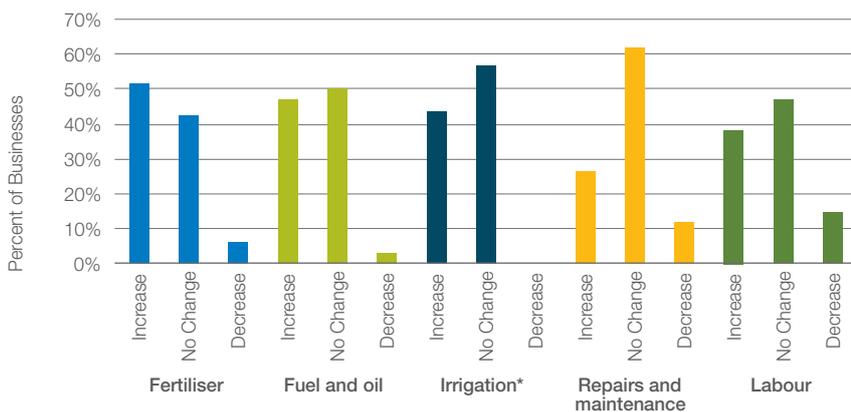


Figure 39 Producer expectations of costs for the dairy industry in 2015/16



Major issues in the dairy industry - the next 12 months

Figure 40 provides a summary of the ten key issues identified by participants for the coming 12 months. A total of 66 responses were recorded from the 34 farms, with three farms not responding.

The major concerns facing participants for 2015/16 were:

- › Seasonal conditions: Effect of El Niño on production; concerns about extreme conditions; reliability of forecasts; impact on available water and prices
- › Labour: availability, management, quality
- › Retirement and succession planning: age, succession issues;
- › Milk price: potentially lower price in 2015/16

- › Cash flow and debt management: finance cost if interest rate rise; increased borrowings to finance infrastructure; ability to service high debt
- › Other issues of concern included:
- › Water: availability and price (impact of dry conditions)
- › Cow productivity and management: dry cow management
- › Farm infrastructure requiring upgrading
- › Feed: prices, quality and type
- › Pasture management: how to optimise production; weeds, pest and diseases
- › Profitability: input costs; profitability of the farm to support two generations

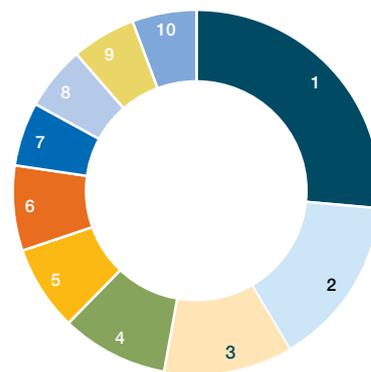


Figure 40 Major issues for individual businesses – 12 year outlook

- 1 Seasonal conditions **26%**
- 2 Labour **15%**
- 3 Retirement and succession planning **11%**
- 4 Milk price **9%**
- 5 Cash flow and debt management **8%**
- 6 Water **8%**
- 7 Farm infrastructure **6%**
- 8 Feed **6%**
- 9 Pasture management **6%**
- 10 Profitability **6%**

Major issues in the dairy industry - the next 5 years

Participants identified ten key issues for their business over the next five years (Figure 41). A total of 80 responses were recorded from 34 farms.

The major concerns identified by participants were:

- › Retirement and succession planning: age, process of succession, family issues; whether to grow or exit
- › Competing land uses: urban encroachment; land subdivision; mining and gas explorations; short supply of land for expansion; expensive land
- › Farm infrastructure: new dairy; repairs and maintenance; irrigation infrastructure

- › Milk price: volatility in the global markets; impact on profitability and cash flow
- › Labour: availability, management, quality
- › Profitability: milk price and input costs; how to maintain viability; limited returns to invest in capital improvement; keeping margins; rising costs and managing costs – impact on profitability
- › Cash flow and debt management: farm debt reduction; cost of finance
- › Business growth: capital investment to grow and stay competitive

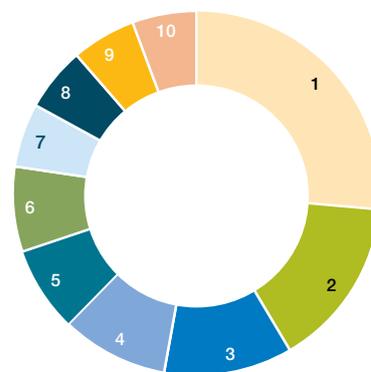
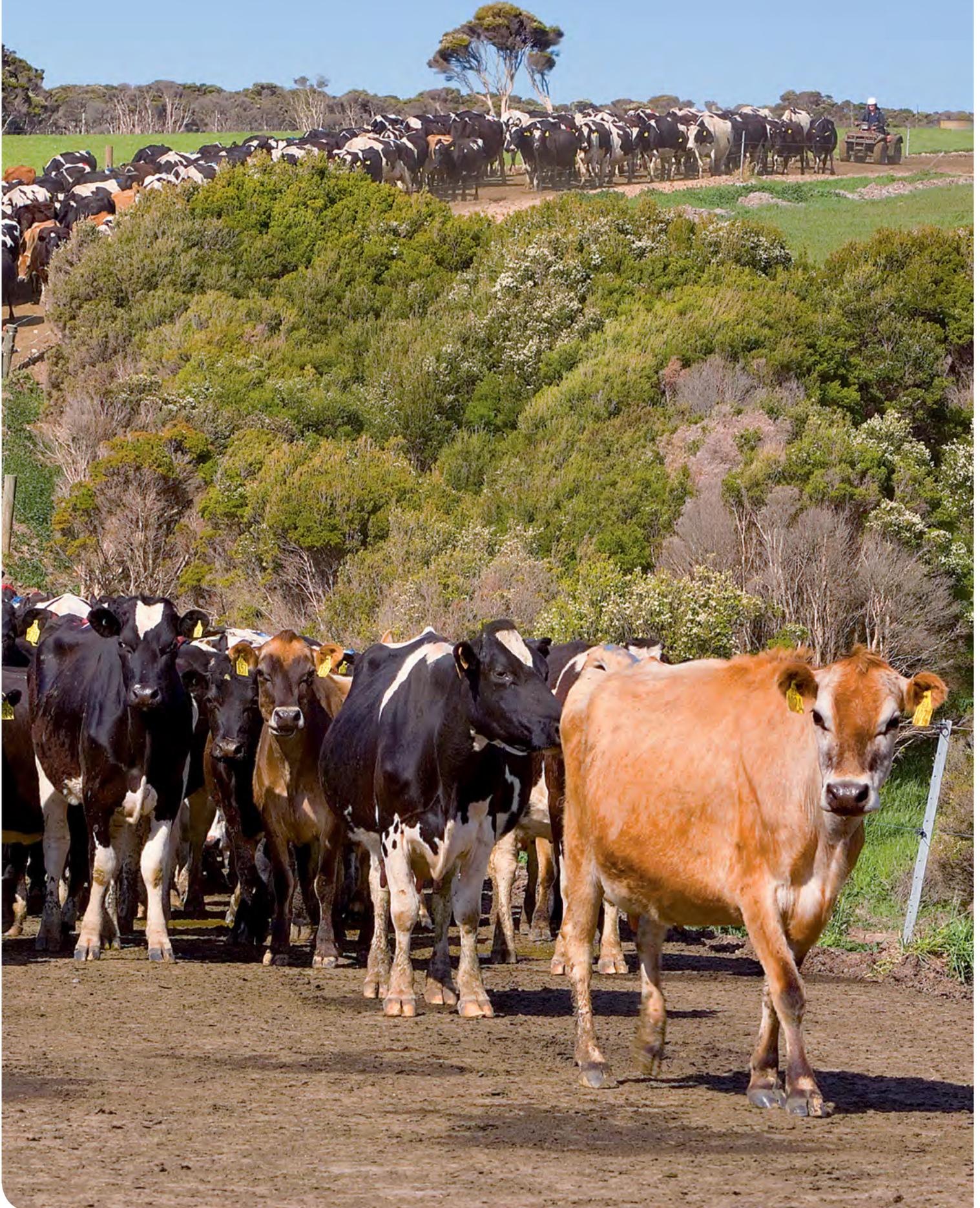


Figure 41 Major issues for individual businesses – 5 year outlook

- 1 Retirement and succession planning **18%**
- 2 Competing land uses **14%**
- 3 Farm infrastructure **12%**
- 4 Profitability **12%**
- 5 Work-life balance **9%**
- 6 Milk price **8%**
- 7 Labour **8%**
- 8 Seasonal variability **6%**
- 9 Cash flow and debt management **6%**
- 10 Business growth **6%**

Greenhouse gas emissions



2014/15 Greenhouse gas emissions

The average level of emission from participating farms was 12.1 t CO₂-e/t MS in 2014/15, lower than last year's 13.0 t CO₂-e/t MS.

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).

The GWP for the three gases that are discussed in this report are; 1 : 21 : 310 (CO₂ : CH₄ : N₂O). This means that one CO₂-e tonne equates to 47.6 kg of methane (CH₄) and 3.2 kg of nitrous oxide (N₂O).

The distribution of different emissions for 2014/15 is shown in Figure 42. Greenhouse gas emissions per tonne of milk solids produced ranged from 9.4 t CO₂-e/t MS to 17.2 t CO₂-e/t MS with an average gross emission level of 12.2 t CO₂-e/t MS. This is lower than last year's total greenhouse gas emissions of 13.0 t CO₂-e/t MS with only a small difference in the percentage mix of gases.

Methane was identified as the main greenhouse gas emitted from dairy farms, accounting for 66% of all greenhouse emissions or 8 t CO₂-e/t MS. In 2013/14, CH₄ accounted for 65% of gas 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 61.5% of total emissions.

Methane from effluent ponds accounted for 4.8% of total emissions on average across the state in 2014/15.

The most efficient strategy to reduce enteric CH₄ production is manipulating the diet by increasing the diet quality through improved pastures or supplementation with particular concentrates. Adding fat supplements such as whole cotton seed, canola meal or linseed oil into the diet can also reduce CH₄ emissions. This is a simple and effective method however it is recommended that fats should not constitute more than 6% to 7% of the dietary dry matter intake.

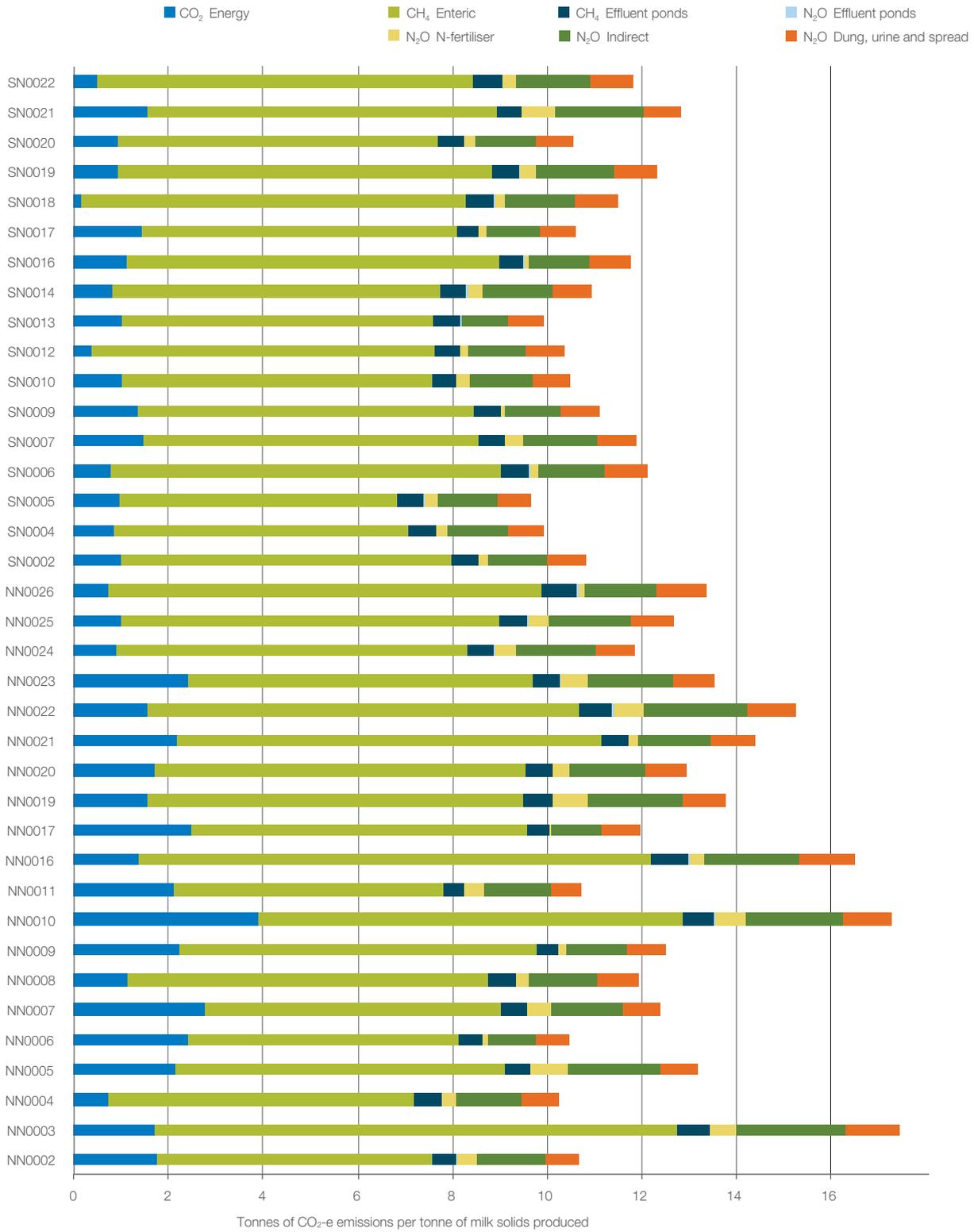
The second main greenhouse gas emission is nitrous oxide accounting for 22% of total emissions or 2.7 t CO₂-e/t MS. Nitrous oxide emissions on dairy farms are primarily derived from direct emissions; including nitrogen fertiliser application, effluent management systems, and animal excreta (dung and urine), as well as indirect emissions such as from ammonia and nitrate loss in soils.

Nitrous oxide emissions from fertiliser accounted for 2.6% of total emissions, effluent ponds accounted for 0.1% and excreta accounted for 4.8%. Nitrous oxide from indirect emissions was 12.4%. 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.

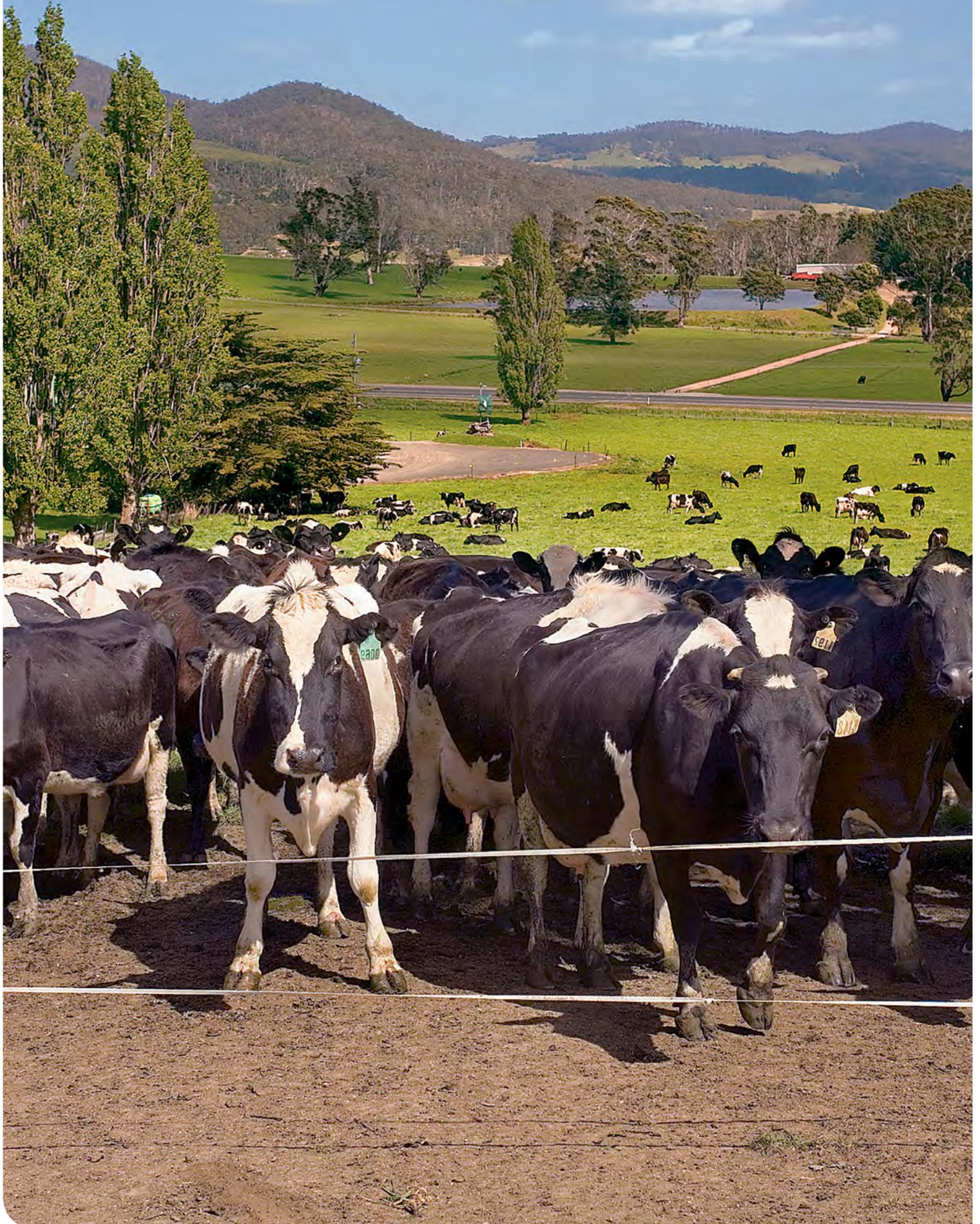
The third main greenhouse gas emission is CO₂ which is produced primarily from fossil fuel consumption as either electricity or petrochemicals. Carbon dioxide accounted for 11.6% of total emissions (1.4 t CO₂-e/t MS), down from 15% in 2013/14. This indicated that farms used less energy this year than last year, with a number of farms now using solar energy. Output levels were highly dependent on the source of electricity used with all farms using black coal generated electricity. There are a number of technologies available to improve energy efficiency in the dairy while reducing electricity costs.

We are currently seeing the importance of understanding and monitoring 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 Greenhouse Office's website at environment.gov.au/climate-change

Figure 42 Expected change to farm business returns in 2015/16



Historical analysis



Historical analysis

This section compares the performance of participant farms in the Dairy Farm Monitor Project over the past four years. The historical analysis compares the trends in farm performance within and between the two 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 number of farms in the project has grown from 28 in 2011/12 to 37 in 2014/15.

Over the four year history of the project in NSW, profitability has varied considerably. The highest returns were in the first and fourth years, and the lowest in the second year, with marginal improvement in the third year. This trend is common to both the North and South regions; however the farms in the South have had higher profitability in all four years since 2011/12. The data for the historical analysis can be found in Appendix Tables 9 and 10 for the state and each region.

The North

The graphs below show the trends in profits and returns over the past four years. The four-year average for return on assets (Figure 44) for the North is 1.6%, with a range of 0.7 to 3.0%. The average return on equity was negative 0.2%, with a range of -1.7% to 2.2%.

Figure 43 shows the trend in earnings before interest and tax (EBIT) and in net farm income (NFI). The difference between EBIT and net income is interest and lease costs. The four-year average for EBIT for North farms was \$99,397/farm, with a range of \$55,891/farm to \$153,125/farm.

This equates to an average of \$0.61/kg MS sold, with a range of \$0.23/kg MS to \$1.10/kg MS.

For net farm income, for two out of the four years the average was negative, meaning many farms made a loss after covering their cost of debt servicing and leasing. The average NFI over the four years was \$-9,691/farm.

In 2012/13 farm profitability fell with the milk price declining year-on-year and due to the rise in input costs. The milk prices improved in 2013/14, but farmers were still recovering from the difficult previous year so profits were again relatively low.

Profit and returns were stronger in the 2014/15, with higher milk prices and favourable seasonal conditions.

A return on assets becomes a lesser return on equity when the rate of interest on loans or lease on leased capital is greater than the return from the additional assets managed. This has not been the case in the North for the four years, with return on equity being consistently lower than return on assets.

Figure 43 Historical farm profitability (real \$) – North

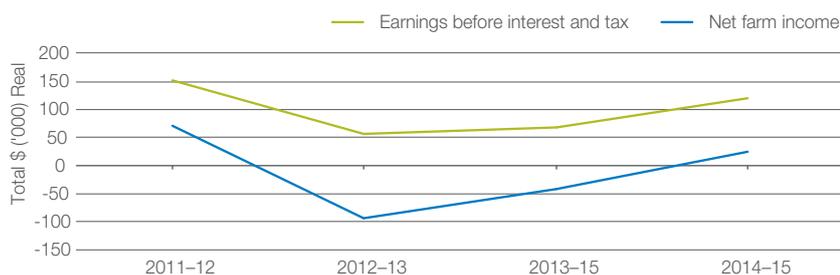
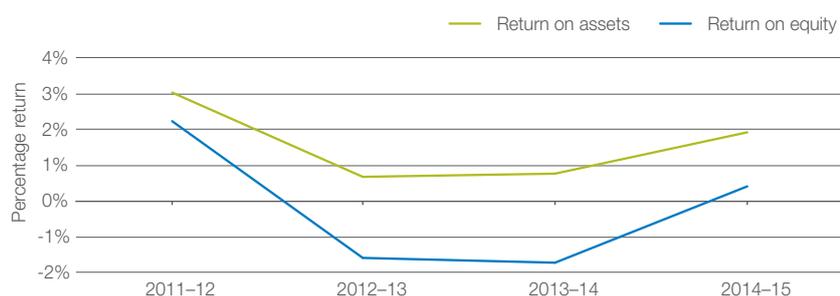


Figure 44 Historical whole farm performance – North



The South

The graphs below show the trends in profits and returns over the past four years. The four-year average for return on assets (Figure 46) for the South is 4.6%, with a range of 2.7 to 5.5%; and for return on equity the average was 3.1%, with a range of 0.5 to 5.7%.

Figure 45 shows the trend in earnings before interest and tax (EBIT) and in net farm income (NFI). The difference between EBIT and net income is interest and lease costs. The four year average for EBIT for South farms was \$305,062, with a range of \$149,328 to \$434,843 per farm. This equates to an average of \$1.53/ kg MS sold, with a range of \$0.85/kg MS to \$1.91/kg MS.

As experienced in the North, in 2012/13 farm profitability fell with the milk price declining and input costs rising. The milk prices improved in 2013/14, but farmers were still recovering from the difficult previous year so profits were again relatively low.

Profit and returns were stronger in the 2014/15, with higher milk prices and favourable seasonal conditions.

Figure 45 Historical farm profitability (real \$) – South

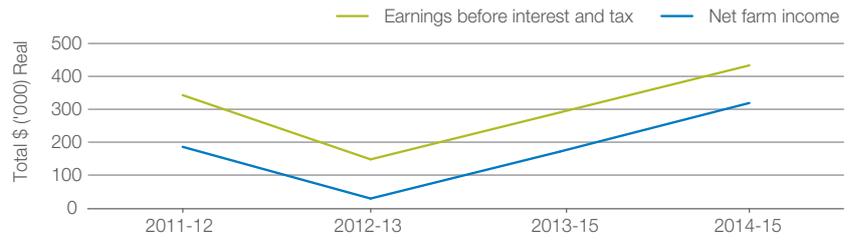


Figure 46 Historical whole farm performance – South



Regional comparison

Profitability performance of the two regions over the last four years is compared in Figures 47 to 50.

In 2014/15 both regions experienced their best or second best performance in the four year history of the project. In comparison 2012/13 was the year with lowest returns.

The South has performed well over time, and for total earnings before interest and tax in real terms the South's performance had surpassed that of the North for each of the four years. This region has also received a lower milk price than the North each year in the history of the project, reflecting the influence of the Victorian milk market. In contrast, the majority of the milk from the North is used for liquid domestic milk supply.

Despite the lower milk price, the South farms have generated a higher EBIT, higher return on assets and higher return on equity each year than the North farms. This is because the cost of production in the South is consistently lower than the North.

Figure 47 Regional historical earnings before interest and tax (real \$)

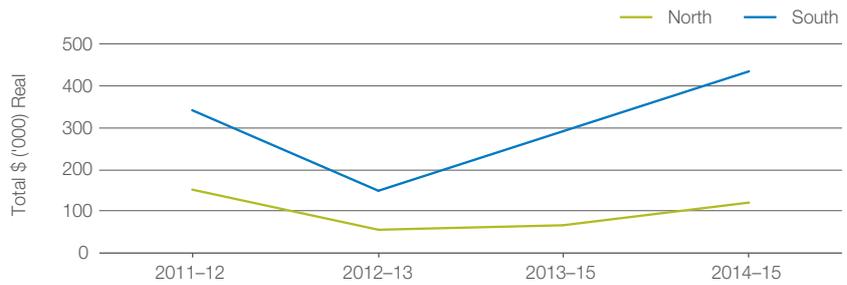


Figure 48 regional historical net farm income (real \$)

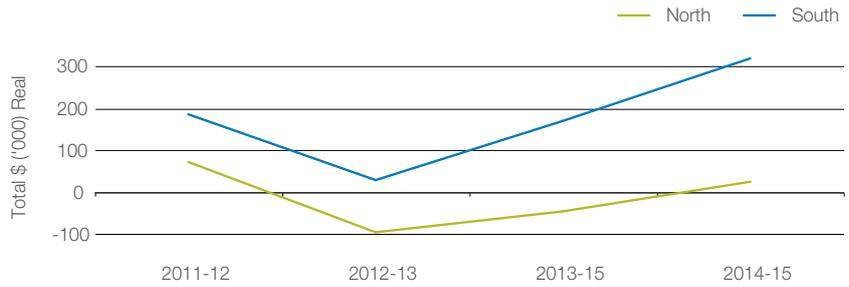


Figure 49 Regional historical return on assets)

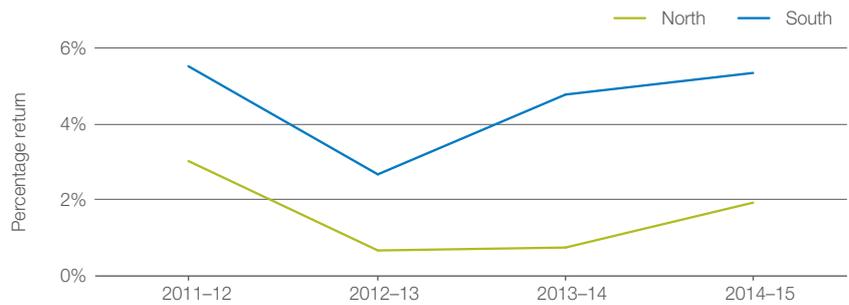
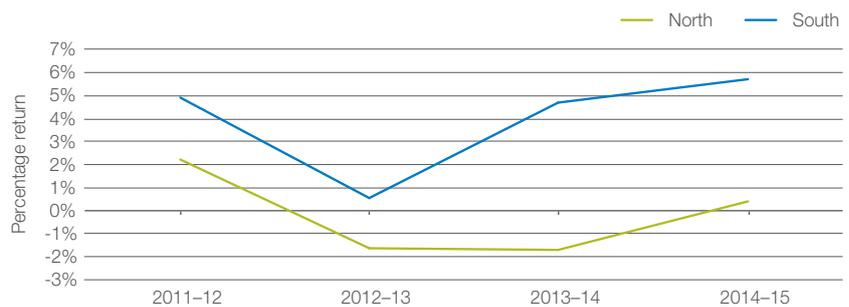
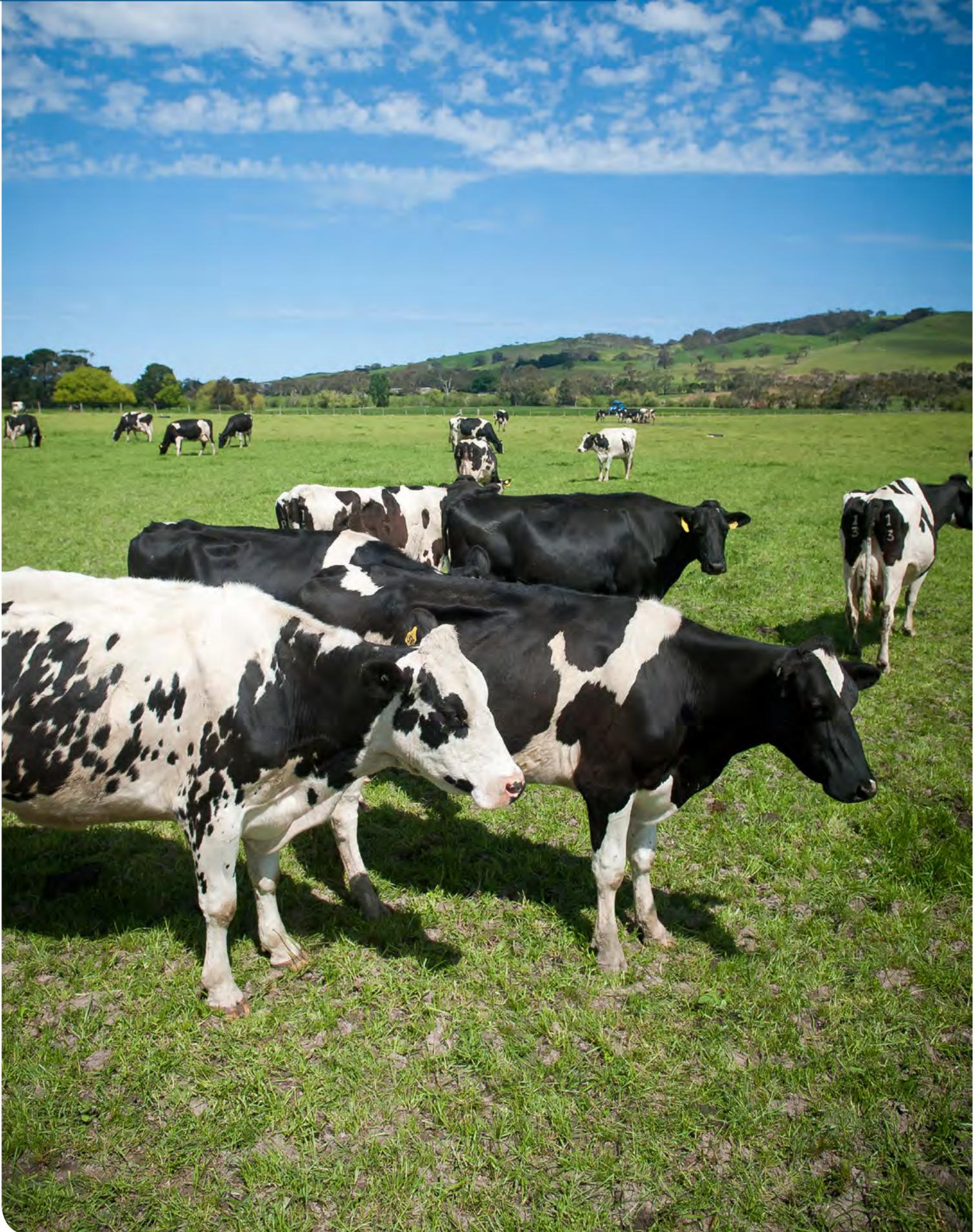


Figure 50 Regional historical return on equity



Appendices



Appendix A Statewide summary tables

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 and tax	Return on assets (exc. capital apprec.)	Interest and lease charges	Debt servicing ratio	Net farm income	Return on equity	Return on equity (inc. capital apprec.)
	\$/kg MS	\$/kg MS	\$/kg MS	\$/kg MS	\$/kg MS	%	\$/kg MS	%	\$/kg MS	% of income	\$/kg MS	%	%
Average	\$7.46	\$0.98	\$8.44	\$4.16	\$2.96	59%	\$1.32	3.5%	\$0.60	7.0%	\$0.72	2.8%	2.9%
Top 25%	\$7.38	\$1.28	\$8.66	\$3.70	\$2.35	61%	\$2.61	8.1%	\$0.52	5.9%	\$2.09	9.9%	10.3%

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	287	128	1,268	338	1.2	506	602	4.0%	3.3%
Top 25%	443	182	1,067	573	1.3	508	656	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	6.5	1.8	58%	108.6	13.8	22.1	16.0	77	38,200
Top 25%	9.7	1.6	64%	118.4	11.0	20.2	12.1	101	49,516

*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	2.6	\$413	\$257	\$324	\$377	\$399	12.2	3.4	42%
Top 25%	2.2	\$370	\$444	\$264	\$604	\$364	12.2	3.0	36%

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	\$0.17	\$0.03	\$0.15	\$0.14	\$0.61	\$0.42	\$0.21	\$0.23
Top 25%*	\$0.11	\$0.14	\$0.04	\$0.15	\$0.10	\$0.54	\$0.36	\$0.29	\$0.21

Farm number	Fuel and oil	Pasture improvement/cropping	Other feed costs	Fodder purchases	Grain/concentrates/other	Agistment costs	Total feed costs	Total variable costs
	\$/kg MS	\$/kg MS	\$/kg MS	\$/kg MS	\$/kg MS	\$/kg MS	\$/kg MS	\$/kg MS
Average	\$0.16	\$0.24	\$0.09	\$0.30	\$1.81	\$0.09	\$3.55	\$4.16
Top 25%	\$0.14	\$0.26	\$0.15	\$0.24	\$1.43	\$0.07	\$3.15	\$3.70

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	\$0.07	\$0.05	\$0.08	\$0.42	\$0.05	\$0.19	\$0.85	\$1.71	\$0.36	\$0.89	\$2.96
Top 25%	\$0.03	\$0.04	\$0.10	\$0.36	\$0.07	\$0.13	\$0.86	\$1.60	\$0.34	\$0.42	\$2.35

Table A6 Variable costs % – Statewide

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs
Average	1.7%	2.3%	0.4%	2.1%	2.0%	8.6%	5.8%	2.8%	3.1%
Top 25%	1.8%	2.1%	0.6%	2.4%	1.9%	8.8%	5.7%	4.9%	3.4%

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	2.2%	3.4%	1.3%	4.3%	25.4%	1.3%	50.1%	58.7%
Top 25%	2.3%	4.0%	2.3%	4.5%	23.9%	1.4%	52.7%	61.5%

Table A7 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
	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs
Average	0.9%	0.7%	1.2%	5.8%	0.6%	2.6%	12.1%	24.0%	5.1%	12.3%	41.3%
Top 25%	0.6%	0.6%	1.7%	5.7%	1.0%	2.1%	13.8%	25.5%	5.5%	7.5%	38.5%

Table A8 Capital structure – Statewide

	Farm Assets				Other farm assets (per usable hectare)				
	Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	Total assets
	\$/ha	\$/cow	\$/ha	\$/cow	\$/ha	\$/ha	\$/ha	\$/ha	\$/ha
Average	\$18,727	\$13,821	\$1,838	\$1,481	\$2,162	\$2,229	\$264	\$263	\$22,459
Top 25%	\$15,140	\$11,354	\$1,532	\$1,205	\$2,063	\$2,229	\$336	\$330	\$21,372

	Liabilities		Equity	
	Liabilities per usable hectare	Liabilities per milking cow	Equity per usable hectare	Average equity
	\$/ha	\$/cow	\$/ha	%
Average	\$5,334	\$4,335	\$17,124	76%
Top 25%	\$4,255	\$3,741	\$17,117	75%

Table A9 Historical data – Statewide

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

Year	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)								
2011–12	\$6.88	\$7.37	\$7.76	\$8.31	\$0.33	\$0.35	\$0.27	\$0.29	\$3.02	\$3.23	\$3.62	\$3.87
2012–13	\$6.43	\$6.72	\$7.20	\$7.53	\$0.33	\$0.34	\$0.28	\$0.29	\$3.18	\$3.32	\$3.79	\$3.96
2013–14	\$7.15	\$7.25	\$8.00	\$8.12	\$0.31	\$0.31	\$0.30	\$0.30	\$3.46	\$3.51	\$4.06	\$4.12
2014–15	\$7.46	\$7.46	\$8.44	\$8.44	\$0.32	\$0.32	\$0.29	\$0.29	\$3.55	\$3.55	\$4.16	\$4.16
Average		\$7.20	\$8.10		\$0.33	\$0.33	\$0.29	\$0.29	\$3.40	\$3.40	\$4.03	\$4.03

Note: 'Real' dollar values are the nominal values converted to 2014-15 dollar equivalents by the consumer price index (CPI) to allow for inflation

Table A9 Historical data – Statewide (continued)
Average farm income, costs and profit per kilogram of milk solids

Year	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)		
2011-12	\$1.56	\$1.67	\$1.24	\$1.33	\$2.80	\$3.00	\$1.34	\$1.43	\$0.59	\$0.63	\$0.75	\$0.80	4.3%	3.6%
2012-13	\$1.71	\$1.79	\$1.19	\$1.24	\$2.90	\$3.03	\$0.51	\$0.54	\$0.62	\$0.65	-\$0.10	-\$0.11	1.7%	-0.5%
2013-14	\$1.80	\$1.82	\$1.25	\$1.27	\$3.05	\$3.10	\$0.88	\$0.90	\$0.62	\$0.63	\$0.26	\$0.26	2.6%	1.2%
2014-15	\$1.71	\$1.71	\$1.25	\$1.25	\$2.96	\$2.96	\$1.32	\$1.32	\$0.60	\$0.60	\$0.72	\$0.72	3.5%	2.8%
Average		\$1.75		\$1.27		\$3.02		\$1.05		\$0.63		\$0.42	3.0%	1.8%

Table A10 Historical data Statewide
Average farm physical information

Year	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per useable area	Milk sold	Milk sold	Estimated grazed pasture*	Estimated conserved feed*	Home grown feed as % of ME consumed	Concentrate price	
	ha	ha	mm/ha	hd	hd/ha	kg MS/ cow	kg MS/ ha	t DM/ ha	t DM/ ha	% of ME	Nominal (\$/T DM)	Real (\$/ T DM)
2011-12	300	133	1,270	375	1.4	478	663	6.4	1.3	57%	\$304	\$326
2012-13	329	140	1,064	349	1.2	492	608	6.9	1.3	56%	\$323	\$337
2013-14	301	119	876	309	1.1	504	569	6.0	1.1	57%	\$412	\$418
2014-15	287	128	1268	338	1.2	506	602	6.5	1.8	58%	\$413	\$413
Average	304	130	1119	343	1.2	495	611	6.5	1.4	57%		\$374

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

Appendix B North summary tables

Table B1 Main financial indicators – North

Farm number	Milk income (net)	All other income	Gross farm income	Total variable costs	Total over-head costs	Cost structure (variable costs/ total costs)	Earnings before interest and tax	Return on assets (exc. capital apprec.)	Interest and lease charges	Debt servicing ratio	Net farm income	Return on equity	Return on equity (inc. capital apprec.)
	\$/kg MS	\$/kg MS	\$/kg MS	\$/kg MS	\$/kg MS	%	\$/kg MS	%	\$/kg MS	% of income	\$/kg MS	%	%
NN0002	\$7.35	\$1.75	\$9.10	\$4.34	\$4.13	51%	\$0.63	1.8%	\$0.21	2.4%	\$0.42	1.3%	1.3%
NN0003	\$7.71	\$0.59	\$8.30	\$4.70	\$3.35	58%	\$0.25	0.6%	\$0.45	5.4%	-\$0.20	-0.8%	-0.8%
NN0004	\$7.63	\$0.81	\$8.44	\$5.19	\$2.97	64%	\$0.28	1.0%	\$0.02	0.3%	\$0.26	1.0%	1.0%
NN0005	\$7.92	\$0.88	\$8.79	\$4.77	\$3.57	57%	\$0.45	1.5%	\$0.00	0.0%	\$0.45	1.5%	1.5%
NN0006	\$7.37	\$1.18	\$8.55	\$4.31	\$3.34	56%	\$0.90	2.1%	\$0.91	10.6%	-\$0.01	0.0%	-0.1%
NN0007	\$7.56	\$0.10	\$7.65	\$3.79	\$2.08	65%	\$1.79	4.8%	\$0.18	2.3%	\$1.61	5.7%	5.7%
NN0008	\$7.47	\$0.60	\$8.08	\$3.60	\$4.40	45%	\$0.07	0.2%	\$0.00	0.0%	\$0.07	0.2%	0.2%
NN0009	\$7.77	\$0.20	\$7.97	\$5.72	\$3.03	65%	-\$0.78	-1.7%	\$0.98	12.3%	-\$1.76	-6.4%	-6.6%
NN0010	\$7.89	\$2.77	\$10.66	\$4.02	\$3.64	52%	\$3.00	5.1%	\$0.90	8.5%	\$2.09	4.8%	4.6%
NN0011	\$7.46	\$0.75	\$8.21	\$3.14	\$2.50	56%	\$2.58	7.2%	\$0.04	0.5%	\$2.54	7.3%	7.3%
NN0016	\$7.71	\$1.05	\$8.77	\$3.44	\$4.16	45%	\$1.16	1.5%	\$0.35	4.0%	\$0.81	5.3%	5.3%
NN0017	\$7.52	\$0.84	\$8.35	\$4.09	\$2.29	64%	\$1.97	4.7%	\$1.71	20.4%	\$0.27	1.6%	1.6%
NN0019	\$7.51	\$0.79	\$8.30	\$3.88	\$2.72	59%	\$1.69	4.4%	\$1.69	20.4%	\$0.00	0.0%	0.0%
NN0020	\$7.56	\$1.56	\$9.12	\$5.56	\$3.11	64%	\$0.45	0.8%	\$1.48	16.2%	-\$1.03	-3.0%	-3.1%
NN0021	\$7.24	\$1.69	\$8.94	\$4.80	\$3.43	58%	\$0.71	1.1%	\$0.38	4.3%	\$0.33	0.6%	0.4%
NN0022	\$7.96	\$0.74	\$8.70	\$5.25	\$3.01	64%	\$0.44	1.2%	\$1.18	13.5%	-\$0.74	-4.8%	-4.7%
NN0023	\$7.38	\$0.86	\$8.24	\$3.86	\$4.12	48%	\$0.26	0.4%	\$0.48	5.8%	-\$0.22	-0.4%	-0.4%
NN0024	\$7.56	\$1.12	\$8.68	\$4.71	\$2.20	68%	\$1.77	5.0%	\$0.15	1.7%	\$1.62	6.4%	6.0%
NN0025	\$7.92	\$0.51	\$8.43	\$4.98	\$3.42	59%	\$0.03	0.1%	\$0.82	9.7%	-\$0.79	-2.7%	-3.8%
NN0026	\$7.95	\$1.05	\$9.00	\$5.47	\$4.79	53%	-\$1.26	-3.5%	\$0.71	7.9%	-\$1.97	-9.3%	-9.8%
Average	\$7.62	\$0.99	\$8.61	\$4.48	\$3.31	58%	\$0.82	1.9%	\$0.63	7.3%	\$0.19	0.4%	0.3%
Top 25%*	\$7.60	\$1.12	\$8.71	\$3.95	\$2.54	61%	\$2.22	5.4%	\$0.60	6.7%	\$1.62	5.1%	5.0%

* The 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	%	%
NN0002	108	50	1,293	75	0.7	562	390	4.0%	3.2%
NN0003	248	89	2,335	299	1.2	409	493	4.2%	3.3%
NN0004	95	80	2,151	167	1.8	457	803	4.2%	3.3%
NN0005	197	100	1,333	290	1.5	475	699	4.2%	3.3%
NN0006	101	87	906	186	1.9	565	1045	3.7%	3.2%
<i>NN0007</i>	<i>255</i>	<i>160</i>	<i>951</i>	<i>280</i>	<i>1.1</i>	<i>572</i>	<i>628</i>	<i>3.4%</i>	<i>3.2%</i>
NN0008	292	85	1,496	240	0.8	522	429	4.0%	3.2%
NN0009	440	96	874	440	1.0	571	571	3.5%	3.2%
<i>NN0010</i>	<i>361</i>	<i>101</i>	<i>1,344</i>	<i>250</i>	<i>0.7</i>	<i>406</i>	<i>281</i>	<i>4.0%</i>	<i>3.1%</i>
<i>NN0011</i>	<i>180</i>	<i>140</i>	<i>1,495</i>	<i>354</i>	<i>2.0</i>	<i>517</i>	<i>1017</i>	<i>4.8%</i>	<i>3.8%</i>
NN0016	114	90	1,634	150	1.3	323	425	4.1%	3.1%
<i>NN0017</i>	<i>607</i>	<i>226</i>	<i>1,005</i>	<i>880</i>	<i>1.4</i>	<i>430</i>	<i>624</i>	<i>3.7%</i>	<i>3.0%</i>
NN0019	148	93	1,504	238	1.6	507	815	3.8%	3.1%
NN0020	207	55	1,399	183	0.9	486	430	3.9%	3.1%
NN0021	88	50	1,350	145	1.6	363	599	4.8%	3.7%
NN0022	198	79	1,653	255	1.3	365	470	3.8%	3.1%
NN0023	144	32	1,125	72	0.5	505	252	3.8%	3.2%
<i>NN0024</i>	<i>239</i>	<i>124</i>	<i>1,015</i>	<i>216</i>	<i>0.9</i>	<i>546</i>	<i>494</i>	<i>3.8%</i>	<i>3.2%</i>
NN0025	234	120	2,178	367	1.6	544	853	4.1%	3.2%
NN0026	51	51	1,558	100	2.0	410	803	3.4%	3.0%
Average	215	95	1,430	259	1.3	477	606	4.0%	3.2%
Top 25%*	328	150	1,162	396	1.2	494	609	4.0%	3.3%

* The Top 25% are bold and italicised

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
NN0002	5.6	1.6	57%	89.8	6.7	10.9	8.9	43	24,367
NN0003	11.1	0.0	62%	162.3	20.7	28.2	9.4	55	22,589
NN0004	5.9	0.6	62%	144.2	34.2	117.2	23.7	62	28,457
NN0005	7.8	2.5	61%	284.4	28.9	59.7	27.4	62	29,512
NN0006	6.7	3.3	60%	59.6	11.7	6.0	2.9	54	30,372
<i>NN0007</i>	<i>5.8</i>	<i>0.5</i>	<i>60%</i>	<i>166.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>74</i>	<i>42,281</i>
NN0008	7.2	1.1	67%	61.5	4.0	9.5	3.7	68	35,268
NN0009	6.1	0.0	28%	67.9	14.3	18.9	25.8	64	36,541
<i>NN0010</i>	<i>10.7</i>	<i>2.8</i>	<i>75%</i>	<i>96.3</i>	<i>4.3</i>	<i>25.0</i>	<i>14.3</i>	<i>99</i>	<i>40,344</i>
<i>NN0011</i>	<i>7.5</i>	<i>3.2</i>	<i>65%</i>	<i>230.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>68</i>	<i>35,407</i>
NN0016	4.7	2.4	73%	82.5	30.5	9.0	41.8	61	19,602
<i>NN0017</i>	<i>3.7</i>	<i>2.3</i>	<i>46%</i>	<i>6.3</i>	<i>5.7</i>	<i>0.0</i>	<i>4.8</i>	<i>105</i>	<i>45,082</i>
NN0019	7.5	3.5	66%	307.9	16.4	19.5	33.3	64	32,674
NN0020	3.6	2.4	48%	82.4	5.1	15.8	6.7	87	42,121
NN0021	4.9	2.5	67%	68.0	25.0	33.0	44.8	77	27,835
NN0022	6.9	1.7	63%	178.6	2.9	4.4	19.4	88	32,057
NN0023	6.9	2.0	66%	77.7	10.6	12.5	2.1	45	22,704
<i>NN0024</i>	<i>4.1</i>	<i>0.6</i>	<i>56%</i>	<i>128.2</i>	<i>13.4</i>	<i>43.0</i>	<i>30.6</i>	<i>75</i>	<i>41,165</i>
NN0025	4.3	2.6	48%	197.1	24.4	104.4	30.1	65	35,541
NN0026	6.7	1.2	51%	58.6	0.0	0.0	0.0	49	19,871
Average	6.4	1.8	59%	127.5	12.9	25.9	16.5	68	32,189
Top 25%*	6.3	1.9	61%	125.3	4.7	13.6	9.9	84	40,856

* The Top 25% are bold and italicised

** 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
NN0002	2.2	\$561				\$561	12.5	4.5	43%
NN0003	0.9	\$511				\$511	12.0	4.3	38%
NN0004	2.3	\$607		\$507		\$570	11.3	5.3	38%
NN0005	1.8	\$382		\$220		\$382	12.7	3.0	39%
NN0006	2.1	\$439				\$439	12.9	3.4	40%
<i>NN0007</i>	<i>2.7</i>	<i>\$430</i>		<i>\$261</i>		<i>\$403</i>	<i>12.0</i>	<i>3.4</i>	<i>40%</i>
NN0008	2.0	\$448		\$515		\$451	12.5	3.7	33%
NN0009	4.2	\$389	\$209	\$376		\$385	12.3	3.2	72%
<i>NN0010</i>	<i>0.9</i>	<i>\$444</i>				<i>\$444</i>	<i>12.7</i>	<i>3.5</i>	<i>25%</i>
<i>NN0011</i>	<i>1.7</i>	<i>\$395</i>				<i>\$395</i>	<i>12.6</i>	<i>3.2</i>	<i>35%</i>
NN0016	0.6	\$400				\$400	12.1	3.3	27%
<i>NN0017</i>	<i>2.9</i>	<i>\$322</i>				<i>\$322</i>	<i>13.0</i>	<i>2.5</i>	<i>54%</i>
NN0019	2.4	\$440	\$267			\$432	12.4	3.5	34%
NN0020	4.1	\$495	\$184	\$593		\$430	11.6	3.9	52%
NN0021	1.6	\$478				\$478	12.5	3.9	33%
NN0022	2.4	\$473	\$255	\$365		\$440	11.4	4.1	37%
NN0023	2.2	\$350				\$350	12.5	2.8	34%
<i>NN0024</i>	<i>3.5</i>	<i>\$355</i>		<i>\$398</i>		<i>\$365</i>	<i>12.2</i>	<i>3.1</i>	<i>44%</i>
NN0025	3.3	\$369		\$249		\$338	11.7	2.9	52%
NN0026	3.5	\$392		\$400		\$392	11.5	3.5	49%
Average	2.4	\$434	\$229	\$388	\$0	\$424	12.2	3.6	41%
Top 25%*	2.3	\$389	\$0	\$330	\$0	\$386	12.5	3.2	39%

* The Top 25% are bold and italicised

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					
NN0002	\$0.08	\$0.18	\$0.00	\$0.14	\$0.20	\$0.60	\$0.46	\$0.14	\$0.19
NN0003	\$0.21	\$0.17	\$0.04	\$0.32	\$0.10	\$0.83	\$0.47	\$0.00	\$0.91
NN0004	\$0.05	\$0.12	\$0.00	\$0.17	\$0.15	\$0.49	\$0.53	\$0.01	\$0.82
NN0005	\$0.20	\$0.19	\$0.04	\$0.17	\$0.21	\$0.81	\$0.80	\$0.33	\$0.37
NN0006	\$0.11	\$0.21	\$0.03	\$0.14	\$0.14	\$0.62	\$0.14	\$0.26	\$0.41
<i>NN0007</i>	<i>\$0.06</i>	<i>\$0.11</i>	<i>\$0.00</i>	<i>\$0.08</i>	<i>\$0.28</i>	<i>\$0.54</i>	<i>\$0.29</i>	<i>\$0.46</i>	<i>\$0.02</i>
NN0008	\$0.14	\$0.20	\$0.00	\$0.08	\$0.12	\$0.53	\$0.32	\$0.10	\$0.10
NN0009	\$0.14	\$0.33	\$0.00	\$0.15	\$0.16	\$0.78	\$0.50	\$0.28	\$0.06
<i>NN0010</i>	<i>\$0.16</i>	<i>\$0.35</i>	<i>\$0.00</i>	<i>\$0.40</i>	<i>\$0.04</i>	<i>\$0.95</i>	<i>\$0.79</i>	<i>\$0.18</i>	<i>\$0.28</i>
<i>NN0011</i>	<i>\$0.22</i>	<i>\$0.12</i>	<i>\$0.00</i>	<i>\$0.16</i>	<i>\$0.07</i>	<i>\$0.56</i>	<i>\$0.29</i>	<i>\$0.47</i>	<i>\$0.05</i>
NN0016	\$0.04	\$0.16	\$0.15	\$0.24	\$0.15	\$0.74	\$1.06	\$0.00	\$0.19
<i>NN0017</i>	<i>\$0.18</i>	<i>\$0.25</i>	<i>\$0.00</i>	<i>\$0.25</i>	<i>\$0.06</i>	<i>\$0.74</i>	<i>\$0.05</i>	<i>\$0.37</i>	<i>\$0.11</i>
NN0019	\$0.09	\$0.14	\$0.01	\$0.12	\$0.13	\$0.49	\$0.70	\$0.11	\$0.07
NN0020	\$0.03	\$0.18	\$0.00	\$0.31	\$0.37	\$0.88	\$0.41	\$0.03	\$0.26
NN0021	\$0.10	\$0.31	\$0.02	\$0.15	\$0.17	\$0.75	\$0.29	\$0.37	\$0.11
NN0022	\$0.04	\$0.25	\$0.02	\$0.20	\$0.31	\$0.82	\$0.71	\$0.15	\$0.32
NN0023	\$0.20	\$0.08	\$0.06	\$0.13	\$0.12	\$0.59	\$0.67	\$0.29	\$0.19
<i>NN0024</i>	<i>\$0.17</i>	<i>\$0.13</i>	<i>\$0.03</i>	<i>\$0.12</i>	<i>\$0.12</i>	<i>\$0.57</i>	<i>\$0.64</i>	<i>\$0.01</i>	<i>\$0.30</i>
NN0025	\$0.19	\$0.17	\$0.11	\$0.26	\$0.35	\$1.08	\$0.58	\$0.12	\$0.24
NN0026	\$0.17	\$0.16	\$0.05	\$0.17	\$0.17	\$0.72	\$0.18	\$0.28	\$0.47
Average	\$0.13	\$0.19	\$0.03	\$0.19	\$0.17	\$0.70	\$0.49	\$0.20	\$0.27
Top 25%*	\$0.16	\$0.19	\$0.01	\$0.20	\$0.12	\$0.67	\$0.41	\$0.30	\$0.15

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
NN0002	\$0.35	\$0.23	\$0.00	\$0.00	\$2.33	\$0.05	\$3.74	\$4.34
NN0003	\$0.29	\$0.47	\$0.28	\$0.00	\$1.07	\$0.39	\$3.87	\$4.70
NN0004	\$0.06	\$0.02	\$0.01	\$1.01	\$2.00	\$0.23	\$4.70	\$5.19
NN0005	\$0.08	\$0.29	\$0.18	\$0.01	\$1.89	\$0.00	\$3.96	\$4.77
NN0006	\$0.08	\$0.34	\$0.16	\$0.24	\$1.62	\$0.44	\$3.69	\$4.31
<i>NN0007</i>	<i>\$0.08</i>	<i>\$0.26</i>	<i>\$0.02</i>	<i>\$0.30</i>	<i>\$1.82</i>	<i>\$0.00</i>	<i>\$3.25</i>	<i>\$3.79</i>
NN0008	\$0.19	\$0.18	\$0.00	\$0.30	\$1.76	\$0.12	\$3.07	\$3.60
NN0009	\$0.30	\$0.73	\$0.15	\$0.53	\$2.39	\$0.00	\$4.94	\$5.72
<i>NN0010</i>	<i>\$0.25</i>	<i>\$0.46</i>	<i>\$0.15</i>	<i>\$0.00</i>	<i>\$0.96</i>	<i>\$0.00</i>	<i>\$3.07</i>	<i>\$4.02</i>
<i>NN0011</i>	<i>\$0.12</i>	<i>\$0.19</i>	<i>\$0.19</i>	<i>\$0.00</i>	<i>\$1.26</i>	<i>\$0.00</i>	<i>\$2.58</i>	<i>\$3.14</i>
NN0016	\$0.31	\$0.38	\$0.00	\$0.00	\$0.76	\$0.00	\$2.70	\$3.44
<i>NN0017</i>	<i>\$0.12</i>	<i>\$0.07</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$2.14</i>	<i>\$0.49</i>	<i>\$3.35</i>	<i>\$4.09</i>
NN0019	\$0.12	\$0.29	\$0.01	\$0.06	\$2.03	\$0.00	\$3.40	\$3.88
NN0020	\$0.14	\$0.27	-\$0.07	\$0.38	\$3.25	\$0.00	\$4.67	\$5.56
NN0021	\$0.15	\$0.67	\$0.18	\$0.00	\$2.26	\$0.00	\$4.04	\$4.80
NN0022	\$0.16	\$0.02	\$0.21	\$0.52	\$2.34	\$0.00	\$4.43	\$5.25
NN0023	\$0.21	\$0.21	\$0.09	\$0.00	\$1.62	\$0.00	\$3.27	\$3.86
<i>NN0024</i>	<i>\$0.11</i>	<i>\$0.31</i>	<i>\$0.23</i>	<i>\$0.75</i>	<i>\$1.80</i>	<i>\$0.00</i>	<i>\$4.15</i>	<i>\$4.71</i>
NN0025	\$0.21	\$0.21	\$0.29	\$0.50	\$1.76	\$0.00	\$3.90	\$4.98
NN0026	\$0.21	\$0.07	-\$0.11	\$0.37	\$3.11	\$0.17	\$4.75	\$5.47
Average	\$0.18	\$0.28	\$0.10	\$0.25	\$1.91	\$0.09	\$3.78	\$4.48
Top 25%*	\$0.14	\$0.26	\$0.12	\$0.21	\$1.60	\$0.10	\$3.28	\$3.95

* The Top 25% are bold and italicised

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
NN0002	\$0.09	\$0.12	\$0.19	\$0.63	\$0.03	\$0.27	\$0.96	\$2.29	\$0.53	\$1.31	\$4.13
NN0003	\$0.06	\$0.00	\$0.07	\$0.23	\$0.04	\$0.38	\$1.44	\$2.22	\$0.10	\$1.02	\$3.35
NN0004	\$0.07	\$0.01	\$0.05	\$0.37	\$0.04	\$0.11	\$0.70	\$1.35	\$0.23	\$1.39	\$2.97
NN0005	\$0.05	\$0.04	\$0.07	\$0.77	\$0.00	\$0.24	\$1.29	\$2.46	\$0.36	\$0.76	\$3.57
NN0006	\$0.03	\$0.01	\$0.15	\$0.59	\$0.05	\$0.23	\$0.79	\$1.84	\$0.47	\$1.02	\$3.34
<i>NN0007</i>	<i>\$0.04</i>	<i>\$0.06</i>	<i>\$0.05</i>	<i>\$0.18</i>	<i>\$0.00</i>	<i>\$0.15</i>	<i>\$0.57</i>	<i>\$1.05</i>	<i>\$0.12</i>	<i>\$0.90</i>	<i>\$2.08</i>
NN0008	\$0.03	\$0.19	\$0.00	\$0.55	\$0.00	\$0.04	\$3.15	\$3.98	\$0.43	\$0.00	\$4.40
NN0009	\$0.04	\$0.01	\$0.10	\$0.39	\$0.27	\$0.18	\$0.62	\$1.62	\$0.46	\$0.96	\$3.03
<i>NN0010</i>	<i>\$0.00</i>	<i>\$0.15</i>	<i>\$0.25</i>	<i>\$0.80</i>	<i>\$0.01</i>	<i>\$0.19</i>	<i>\$1.57</i>	<i>\$2.97</i>	<i>\$0.67</i>	<i>\$0.00</i>	<i>\$3.64</i>
<i>NN0011</i>	<i>\$0.04</i>	<i>\$0.01</i>	<i>\$0.12</i>	<i>\$0.19</i>	<i>\$0.01</i>	<i>\$0.03</i>	<i>\$0.40</i>	<i>\$0.80</i>	<i>\$0.42</i>	<i>\$1.27</i>	<i>\$2.50</i>
NN0016	\$0.10	\$0.02	\$0.07	\$0.23	\$0.00	\$0.11	\$1.77	\$2.30	\$0.57	\$1.29	\$4.16
<i>NN0017</i>	<i>\$0.05</i>	<i>\$0.00</i>	<i>\$0.13</i>	<i>\$0.54</i>	<i>\$0.06</i>	<i>\$0.20</i>	<i>\$0.85</i>	<i>\$1.84</i>	<i>\$0.23</i>	<i>\$0.22</i>	<i>\$2.29</i>
NN0019	\$0.04	\$0.03	\$0.09	\$0.08	\$0.02	\$0.24	\$1.20	\$1.69	\$0.37	\$0.66	\$2.72
NN0020	\$0.15	\$0.11	\$0.00	\$0.44	\$0.02	\$0.14	\$0.25	\$1.11	\$1.09	\$0.91	\$3.11
NN0021	\$0.06	\$0.00	\$0.21	\$0.72	\$0.03	\$0.17	\$0.30	\$1.48	\$0.40	\$1.54	\$3.43
NN0022	\$0.06	\$0.15	\$0.00	\$0.60	\$0.01	\$0.07	\$0.89	\$1.79	\$0.32	\$0.90	\$3.01
NN0023	\$0.15	\$0.19	\$0.00	\$0.41	\$0.04	\$0.39	\$0.05	\$1.23	\$0.26	\$2.64	\$4.12
<i>NN0024</i>	<i>\$0.05</i>	<i>\$0.00</i>	<i>\$0.11</i>	<i>\$0.24</i>	<i>\$0.03</i>	<i>\$0.17</i>	<i>\$0.57</i>	<i>\$1.17</i>	<i>\$0.19</i>	<i>\$0.85</i>	<i>\$2.20</i>
NN0025	\$0.10	\$0.07	\$0.07	\$0.56	\$0.17	\$0.32	\$1.06	\$2.33	\$0.50	\$0.59	\$3.42
NN0026	\$0.09	\$0.04	\$0.17	\$0.76	\$0.03	\$0.36	\$0.38	\$1.83	\$0.29	\$2.67	\$4.79
Average	\$0.06	\$0.06	\$0.10	\$0.46	\$0.04	\$0.20	\$0.94	\$1.87	\$0.40	\$1.05	\$3.31
Top 25%*	\$0.03	\$0.04	\$0.13	\$0.39	\$0.02	\$0.15	\$0.79	\$1.57	\$0.33	\$0.65	\$2.54

* The Top 25% are bold and italicised

Table B6 Variable costs % – North

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	% of costs	% of costs	% of costs	% of costs					
NN0002	1.0%	2.1%	0.0%	1.7%	2.3%	7.1%	5.4%	1.6%	2.3%
NN0003	2.6%	2.1%	0.5%	3.9%	1.2%	10.3%	5.8%	0.0%	11.3%
NN0004	0.7%	1.5%	0.0%	2.1%	1.8%	6.0%	6.5%	0.2%	10.1%
NN0005	2.3%	2.2%	0.5%	2.1%	2.5%	9.7%	9.6%	4.0%	4.4%
NN0006	1.4%	2.8%	0.3%	1.8%	1.8%	8.1%	1.9%	3.4%	5.3%
<i>NN0007</i>	<i>1.0%</i>	<i>1.9%</i>	<i>0.0%</i>	<i>1.4%</i>	<i>4.8%</i>	<i>9.1%</i>	<i>5.0%</i>	<i>7.8%</i>	<i>0.4%</i>
NN0008	1.7%	2.5%	0.0%	1.0%	1.5%	6.6%	3.9%	1.3%	1.3%
NN0009	1.6%	3.7%	0.0%	1.7%	1.8%	8.9%	5.8%	3.2%	0.7%
<i>NN0010</i>	<i>2.0%</i>	<i>4.6%</i>	<i>0.0%</i>	<i>5.2%</i>	<i>0.6%</i>	<i>12.4%</i>	<i>10.4%</i>	<i>2.4%</i>	<i>3.7%</i>
<i>NN0011</i>	<i>3.9%</i>	<i>2.1%</i>	<i>0.0%</i>	<i>2.8%</i>	<i>1.2%</i>	<i>10.0%</i>	<i>5.2%</i>	<i>8.4%</i>	<i>0.8%</i>
NN0016	0.5%	2.1%	1.9%	3.2%	2.0%	9.8%	13.9%	0.0%	2.5%
<i>NN0017</i>	<i>2.8%</i>	<i>4.0%</i>	<i>0.0%</i>	<i>3.8%</i>	<i>1.0%</i>	<i>11.6%</i>	<i>0.8%</i>	<i>5.8%</i>	<i>1.7%</i>
NN0019	1.4%	2.1%	0.2%	1.8%	2.0%	7.4%	10.5%	1.7%	1.0%
NN0020	0.4%	2.0%	0.0%	3.6%	4.2%	10.2%	4.7%	0.4%	3.0%
NN0021	1.2%	3.8%	0.3%	1.9%	2.1%	9.2%	3.5%	4.5%	1.4%
NN0022	0.5%	3.0%	0.2%	2.4%	3.8%	9.9%	8.6%	1.8%	3.9%
NN0023	2.5%	1.0%	0.8%	1.7%	1.4%	7.4%	8.4%	3.6%	2.4%
<i>NN0024</i>	<i>2.5%</i>	<i>1.8%</i>	<i>0.4%</i>	<i>1.7%</i>	<i>1.7%</i>	<i>8.2%</i>	<i>9.2%</i>	<i>0.1%</i>	<i>4.3%</i>
NN0025	2.3%	2.0%	1.3%	3.1%	4.2%	12.8%	6.9%	1.5%	2.8%
NN0026	1.7%	1.5%	0.5%	1.7%	1.6%	7.0%	1.8%	2.7%	4.6%
Average	1.7%	2.4%	0.4%	2.4%	2.2%	9.1%	6.4%	2.7%	3.4%
Top 25%*	2.4%	2.9%	0.1%	3.0%	1.9%	10.3%	6.1%	4.9%	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
NN0002	4.1%	2.7%	0.0%	0.0%	27.5%	0.6%	44.1%	51.2%
NN0003	3.6%	5.9%	3.4%	0.0%	13.3%	4.8%	48.1%	58.4%
NN0004	0.8%	0.2%	0.2%	12.4%	24.4%	2.8%	57.6%	63.6%
NN0005	1.0%	3.5%	2.1%	0.1%	22.7%	0.0%	47.5%	57.2%
NN0006	1.1%	4.4%	2.1%	3.2%	21.2%	5.7%	48.3%	56.4%
<i>NN0007</i>	<i>1.3%</i>	<i>4.5%</i>	<i>0.3%</i>	<i>5.1%</i>	<i>31.1%</i>	<i>0.0%</i>	<i>55.5%</i>	<i>64.6%</i>
NN0008	2.4%	2.3%	0.0%	3.7%	21.9%	1.5%	38.4%	45.0%
NN0009	3.4%	8.4%	1.7%	6.0%	27.3%	0.0%	56.4%	65.3%
<i>NN0010</i>	<i>3.3%</i>	<i>6.0%</i>	<i>2.0%</i>	<i>0.0%</i>	<i>12.5%</i>	<i>0.0%</i>	<i>40.1%</i>	<i>52.5%</i>
<i>NN0011</i>	<i>2.1%</i>	<i>3.3%</i>	<i>3.4%</i>	<i>0.0%</i>	<i>22.4%</i>	<i>0.0%</i>	<i>45.7%</i>	<i>55.7%</i>
NN0016	4.0%	5.0%	0.0%	0.0%	10.0%	0.0%	35.5%	45.2%
<i>NN0017</i>	<i>1.9%</i>	<i>1.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>33.6%</i>	<i>7.7%</i>	<i>52.5%</i>	<i>64.1%</i>
NN0019	1.9%	4.4%	0.2%	0.9%	30.7%	0.0%	51.4%	58.8%
NN0020	1.6%	3.2%	-0.8%	4.4%	37.5%	0.0%	53.9%	64.1%
NN0021	1.8%	8.2%	2.2%	0.0%	27.5%	0.0%	49.2%	58.3%
NN0022	2.0%	0.3%	2.6%	6.3%	28.3%	0.0%	53.7%	63.6%
NN0023	2.6%	2.6%	1.1%	0.0%	20.3%	0.0%	41.0%	48.3%
<i>NN0024</i>	<i>1.7%</i>	<i>4.4%</i>	<i>3.4%</i>	<i>10.8%</i>	<i>26.1%</i>	<i>0.0%</i>	<i>59.9%</i>	<i>68.2%</i>
NN0025	2.5%	2.5%	3.4%	5.9%	20.9%	0.0%	46.4%	59.3%
NN0026	2.1%	0.6%	-1.1%	3.6%	30.3%	1.6%	46.3%	53.3%
Average	2.3%	3.7%	1.3%	3.1%	24.5%	1.2%	48.6%	57.7%
Top 25%*	2.1%	3.8%	1.8%	3.2%	25.1%	1.5%	50.8%	61.0%

* The Top 25% are bold and italicised

Table B7 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
	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs
NN0002	1.0%	1.4%	2.3%	7.4%	0.4%	3.2%	11.4%	27.1%	6.3%	15.5%	48.8%
NN0003	0.7%	0.0%	0.8%	2.8%	0.5%	4.7%	17.9%	27.6%	1.3%	12.7%	41.6%
NN0004	0.8%	0.2%	0.7%	4.5%	0.4%	1.4%	8.5%	16.5%	2.8%	17.1%	36.4%
NN0005	0.6%	0.4%	0.8%	9.3%	0.0%	2.8%	15.5%	29.4%	4.3%	9.1%	42.8%
NN0006	0.4%	0.1%	2.0%	7.7%	0.7%	3.0%	10.3%	24.1%	6.1%	13.4%	43.6%
<i>NN0007</i>	<i>0.6%</i>	<i>1.0%</i>	<i>0.9%</i>	<i>3.1%</i>	<i>0.0%</i>	<i>2.5%</i>	<i>9.8%</i>	<i>18.0%</i>	<i>2.1%</i>	<i>15.3%</i>	<i>35.4%</i>
NN0008	0.4%	2.4%	0.0%	6.9%	0.0%	0.5%	39.4%	49.7%	5.3%	0.0%	55.0%
NN0009	0.4%	0.1%	1.1%	4.5%	3.1%	2.0%	7.1%	18.5%	5.3%	10.9%	34.7%
<i>NN0010</i>	<i>0.0%</i>	<i>1.9%</i>	<i>3.3%</i>	<i>10.4%</i>	<i>0.2%</i>	<i>2.4%</i>	<i>20.5%</i>	<i>38.7%</i>	<i>8.8%</i>	<i>0.0%</i>	<i>47.5%</i>
<i>NN0011</i>	<i>0.8%</i>	<i>0.2%</i>	<i>2.1%</i>	<i>3.3%</i>	<i>0.1%</i>	<i>0.5%</i>	<i>7.2%</i>	<i>14.2%</i>	<i>7.5%</i>	<i>22.5%</i>	<i>44.3%</i>
NN0016	1.3%	0.2%	1.0%	3.1%	0.0%	1.5%	23.3%	30.3%	7.5%	17.0%	54.8%
<i>NN0017</i>	<i>0.7%</i>	<i>0.0%</i>	<i>2.1%</i>	<i>8.5%</i>	<i>1.0%</i>	<i>3.2%</i>	<i>13.4%</i>	<i>28.9%</i>	<i>3.6%</i>	<i>3.5%</i>	<i>35.9%</i>
NN0019	0.6%	0.4%	1.3%	1.1%	0.4%	3.6%	18.2%	25.6%	5.6%	9.9%	41.2%
NN0020	1.8%	1.3%	0.0%	5.1%	0.2%	1.6%	2.9%	12.9%	12.5%	10.5%	35.9%
NN0021	0.8%	0.0%	2.5%	8.7%	0.3%	2.0%	3.7%	18.1%	4.8%	18.8%	41.7%
NN0022	0.7%	1.8%	0.0%	7.2%	0.2%	0.9%	10.8%	21.6%	3.9%	10.9%	36.4%
NN0023	1.9%	2.4%	0.0%	5.2%	0.5%	4.9%	0.6%	15.4%	3.2%	33.1%	51.7%
<i>NN0024</i>	<i>0.7%</i>	<i>0.1%</i>	<i>1.6%</i>	<i>3.4%</i>	<i>0.4%</i>	<i>2.4%</i>	<i>8.3%</i>	<i>16.9%</i>	<i>2.7%</i>	<i>12.3%</i>	<i>31.8%</i>
NN0025	1.2%	0.8%	0.8%	6.6%	2.0%	3.8%	12.6%	27.8%	5.9%	7.1%	40.7%
NN0026	0.9%	0.4%	1.6%	7.4%	0.3%	3.5%	3.7%	17.8%	2.8%	26.0%	46.7%
Average	0.8%	0.8%	1.2%	5.8%	0.5%	2.5%	12.3%	24.0%	5.1%	13.3%	42.3%
Top 25%*	0.6%	0.6%	2.0%	5.7%	0.3%	2.2%	11.8%	23.3%	4.9%	10.7%	39.0%

* The Top 25% are bold and italicised

Table B8 Capital structure – North

Farm Assets				Other farm assets (per usable hectare)					
Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	Total assets	
\$/ha	\$/cow	\$/ha	\$/cow	\$/ha	\$/ha	\$/ha	\$/ha	\$/ha	
Average	\$18,358	\$13,119	\$2,238	\$1,462	\$2,365	\$2,481	\$161	\$268	\$22,353

Liabilities		Equity		
Liabilities per usable hectare	Liabilities per milking cow	Equity per usable hectare	Average equity	
\$/ha	\$/cow	\$/ha	%	
Average	\$4,117	\$4,091	\$17,024	78%

Table B9 Historical data – North
Average farm income, costs and profit per kilogram of milk solids

Income					Variable costs							
Year	Milk income (net)		Gross farm income		Herd costs		Shed costs		Feed costs		Total variable costs	
	Nominal (\$/kg MS)	Real (\$/kg MS)										
2011-12	\$7.13	\$7.63	\$8.04	\$8.61	\$0.35	\$0.37	\$0.29	\$0.31	\$3.17	\$3.39	\$3.81	\$4.08
2012-13	\$6.83	\$7.14	\$7.46	\$7.80	\$0.33	\$0.35	\$0.32	\$0.34	\$3.34	\$3.50	\$4.00	\$4.18
2013-14	\$7.17	\$7.28	\$8.01	\$8.13	\$0.30	\$0.30	\$0.37	\$0.38	\$3.68	\$3.74	\$4.35	\$4.42
2014-15	\$7.62	\$7.62	\$8.61	\$8.61	\$0.35	\$0.35	\$0.36	\$0.36	\$3.78	\$3.78	\$4.48	\$4.48
Average		\$7.42		\$8.29		\$0.34		\$0.35		\$3.60		\$4.29

Note: 'Real' dollar values are the nominal values converted to 2014-15 dollar equivalents by the consumer price index (CPI) to allow for inflation

Year	Overhead costs						Profit							
	Cash overhead costs		Non-cash overhead costs		Total overhead costs		Earnings before interest & tax		Interest & lease charges		Net farm income			
	Nominal (\$/kg MS)	Real (\$/kg MS)	Nominal (\$/kg MS)	Real (\$/kg MS)	Nominal (\$/kg MS)	Real (\$/kg MS)	Nominal (\$/kg MS)	Real (\$/kg MS)	Nominal (\$/kg MS)	Real (\$/kg MS)	Nominal (\$/kg MS)	Real (\$/kg MS)	Return on assets	Return on equity
2011-12	\$1.76	\$1.89	\$1.44	\$1.54	\$3.20	\$3.43	\$1.03	\$1.10	\$0.45	\$0.48	\$0.58	\$0.62	3.0%	2.2%
2012-13	\$1.99	\$2.08	\$1.26	\$1.32	\$3.25	\$3.40	\$0.22	\$0.23	\$0.58	\$0.60	-\$0.36	-\$0.38	0.7%	-1.6%
2013-14	\$2.02	\$2.06	\$1.34	\$1.36	\$3.36	\$3.41	\$0.29	\$0.30	\$0.64	\$0.65	-\$0.34	-\$0.35	0.8%	-1.7%
2014-15	\$1.87	\$1.87	\$1.45	\$1.45	\$3.31	\$3.31	\$0.82	\$0.82	\$0.63	\$0.63	\$0.19	\$0.19	1.9%	0.4%
Average		\$1.97		\$1.42		\$3.39		\$0.61		\$0.59		\$0.02	1.6%	-0.2%

Table B10 Historical data – North
Average farm physical information

Year	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per useable area	Milk sold	Milk sold	Estimated grazed pasture*	Estimated conserved feed*	Home grown feed as % of ME consumed	Concentrate price	
	ha	ha	mm/ha	hd	hd/ha	kg MS/ cow	kg MS/ ha	t DM/ ha	t DM/ ha	% of ME	Nominal (\$/T DM)	Real (\$/ T DM)
2011-12	250	109	1,398	300	1.3	461	598	5.9	1.8	62%	\$307	\$329
2012-13	335	130	1,323	361	1.3	460	615	7.4	1.4	58%	\$335	\$350
2013-14	231	102	974	272	1.2	471	590	5.8	1.2	60%	\$444	\$451
2014-15	215	95	1430	259	1.3	477	606	6.4	1.8	59%	\$434	\$434
Average	258	109	1281	298	1.3	467	602	6.4	1.6	60%		\$340

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

Appendix C South summary tables

Table C1 Main financial indicators – South

Farm number	Milk income (net)	All other income	Gross farm income	Total variable costs	Total over-head costs	Cost structure (variable costs/ total costs)	Earnings before interest and tax	Return on assets (exc. capital apprec.)	Interest and lease charges	Debt servicing ratio	Net farm income	Return on equity	Return on equity (inc. capital apprec.)
	\$/kg MS	%	\$/kg MS	%	\$/kg MS	% of income	\$/kg MS	%	%				
SN0002	\$7.78	\$0.40	\$8.18	\$4.16	\$2.96	58%	\$1.05	1.7%	\$0.66	8%	\$0.40	1.3%	-0.8%
SN0004	\$7.72	\$1.27	\$8.99	\$4.11	\$3.51	54%	\$1.37	1.5%	\$0.40	4%	\$0.97	1.6%	1.6%
SN0005	\$7.70	\$1.15	\$8.85	\$3.57	\$2.72	57%	\$2.56	2.4%	\$0.43	5%	\$2.13	2.5%	2.5%
SN0006	\$6.93	\$2.48	\$9.41	\$4.26	\$2.92	59%	\$2.22	6.3%	\$1.02	11%	\$1.20	7.9%	8.2%
<i>SN0007</i>	<i>\$7.87</i>	<i>\$0.75</i>	<i>\$8.62</i>	<i>\$5.10</i>	<i>\$2.03</i>	<i>72%</i>	<i>\$1.50</i>	<i>6.4%</i>	<i>\$0.49</i>	<i>6%</i>	<i>\$1.01</i>	<i>6.0%</i>	<i>7.4%</i>
SN0009	\$6.92	\$1.95	\$8.87	\$4.53	\$2.62	63%	\$1.72	4.2%	\$1.33	15%	\$0.39	1.9%	1.9%
SN0010	\$6.69	\$0.36	\$7.05	\$3.77	\$2.37	61%	\$0.91	3.8%	\$0.28	4%	\$0.63	3.6%	8.1%
<i>SN0012</i>	<i>\$7.44</i>	<i>\$1.24</i>	<i>\$8.68</i>	<i>\$3.42</i>	<i>\$3.34</i>	<i>51%</i>	<i>\$1.92</i>	<i>8.1%</i>	<i>\$0.21</i>	<i>2%</i>	<i>\$1.70</i>	<i>14.3%</i>	<i>14.9%</i>
<i>SN0013</i>	<i>\$7.32</i>	<i>\$0.54</i>	<i>\$7.86</i>	<i>\$2.36</i>	<i>\$1.50</i>	<i>61%</i>	<i>\$4.00</i>	<i>17.4%</i>	<i>\$0.53</i>	<i>7%</i>	<i>\$3.46</i>	<i>24.9%</i>	<i>25.4%</i>
SN0014	\$6.51	\$0.55	\$7.06	\$4.81	\$1.93	71%	\$0.31	1.9%	\$0.49	7%	-\$0.17	-1.9%	-1.9%
SN0016	\$7.57	\$0.25	\$7.81	\$3.36	\$3.49	49%	\$0.96	3.3%	\$0.07	1%	\$0.89	4.0%	4.1%
SN0017	\$7.21	\$0.54	\$7.75	\$3.19	\$2.89	52%	\$1.67	3.6%	\$0.00	0%	\$1.67	3.6%	3.6%
SN0018	\$6.73	\$1.37	\$8.10	\$2.22	\$3.28	40%	\$2.59	3.5%	\$0.66	8%	\$1.93	3.4%	3.5%
SN0019	\$7.80	\$0.64	\$8.44	\$4.55	\$2.48	65%	\$1.41	4.6%	\$1.38	16%	\$0.03	0.3%	-0.1%
SN0020	\$7.84	\$0.68	\$8.52	\$4.17	\$2.01	68%	\$2.34	5.0%	\$0.00	0%	\$2.34	5.0%	5.0%
<i>SN0021</i>	<i>\$5.90</i>	<i>\$1.73</i>	<i>\$7.63</i>	<i>\$3.82</i>	<i>\$1.61</i>	<i>70%</i>	<i>\$2.19</i>	<i>10.9%</i>	<i>\$0.04</i>	<i>1%</i>	<i>\$2.15</i>	<i>11.2%</i>	<i>11.8%</i>
SN0022	\$7.80	\$0.56	\$8.36	\$2.99	\$1.63	65%	\$3.74	6.2%	\$1.46	17%	\$2.28	7.8%	7.8%
Average	\$7.28	\$0.97	\$8.25	\$3.79	\$2.55	60%	\$1.91	5.3%	\$0.56	7%	\$1.35	5.7%	6.1%
Top 25%*	\$7.13	\$1.06	\$8.20	\$3.68	\$2.12	63%	\$2.40	10.7%	\$0.32	3.9%	\$2.08	14.1%	14.9%

* The Top 25% are bold and italicised

Table C2 Physical information – South

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	%	%
SN0002	242	80	1,784	277	1.1	557	638	3.9%	3.4%
SN0004	184	117	1,788	172	0.9	522	488	4.1%	3.1%
SN0005	218	100	2,094	252	1.2	555	641	3.9%	3.2%
SN0006	281	71	1,067	340	1.2	501	607	4.2%	3.2%
SN0007	708	280	811	1,106	1.6	630	985	4.0%	3.2%
SN0009	280	156	518	220	0.8	626	492	3.8%	3.3%
SN0010	389	167	835	369	0.9	587	557	3.8%	3.3%
SN0012	318	101	521	290	0.9	611	557	3.9%	3.3%
SN0013	259	60	584	213	0.8	443	364	4.5%	3.7%
SN0014	430	185	569	385	0.9	615	551	3.9%	3.3%
SN0016	430	277	810	393	0.9	482	440	4.2%	3.4%
SN0017	160	80	1,007	130	0.8	554	450	4.4%	3.4%
SN0018	368	140	847	188	0.5	565	288	4.2%	3.3%
SN0019	175	115	1,281	380	2.2	463	1,005	3.5%	3.3%
SN0020	405	197	1,411	540	1.3	583	778	3.5%	3.1%
SN0021	1,030	434	955	1,263	1.2	487	597	4.8%	3.8%
SN0022	443	250	1,416	800	1.8	397	718	3.9%	3.3%
Average	372	165	1,076	430	1.1	540	597	4.0%	3.3%
Top 25%*	579	219	718	718	1.1	543	626	4.3%	3.5%

Farm number	Estimated grazed pasture**	Estimated conserved feed**	Home grown feed as % of ME consumed	Nitrogen application	Phosphorous application	Potassium application	Sulphur application	Labour efficiency	Labour efficiency
	t DM/ ha	t DM/ ha	% of ME	kg/ ha	kg/ ha	kg/ ha	kg/ ha	hd/ FTE	kg MS/ FTE
SN0002	6.6	0.0	45%	59.4	21.6	7.2	28.9	54	29,992
SN0004	4.4	0.6	48%	65.7	13.2	21.5	6.0	61	31,824
SN0005	7.9	2.3	58%	93.8	19.1	31.8	10.6	79	43,717
SN0006	13.2	3.1	71%	56.5	7.2	18.1	8.9	80	39,918
SN0007	15.2	0.0	63%	210.2	33.2	58.3	64.2	92	57,817
SN0009	2.2	0.2	45%	26.4	11.2	0.0	1.6	70	43,813
SN0010	1.5	4.1	35%	81.8	43.6	0.0	89.5	84	49,202
SN0012	9.7	0.6	62%	39.1	8.6	0.0	1.6	54	32,820
SN0013	8.6	0.0	57%	0.0	0.0	0.0	0.0	143	63,214
SN0014	4.9	2.1	48%	104.6	21.0	32.2	12.3	90	55,084
SN0016	2.3	1.0	51%	26.0	4.0	0.0	0.3	66	31,861
SN0017	3.3	4.1	68%	33.7	3.2	14.1	3.8	62	34,458
SN0018	5.6	2.9	75%	35.8	10.2	4.5	10.1	50	28,035
SN0019	5.2	5.1	54%	203.5	11.7	32.6	5.8	112	51,734
SN0020	6.8	1.7	47%	88.6	0.0	22.2	0.0	82	47,792
SN0021	8.1	1.7	71%	223.7	31.8	30.6	12.0	131	63,665
SN0022	7.7	1.5	65%	121.1	13.6	27.3	8.3	163	64,667
Average	6.7	1.8	57%	86.5	14.9	17.7	15.5	86	45,271
Top 25%*	10.4	0.6	63%	118.2	18.4	22.2	19.5	105	54,379

* The Top 25% are bold and italicised

Table C3 Purchased feed – South

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
SN0002	4.2	\$452		\$336		\$410	11.8	3.7	55%
SN0004	3.4	\$426		\$328		\$401	11.6	3.6	52%
SN0005	2.8	\$435		\$371		\$419	11.6	3.8	42%
SN0006	1.7	\$403		\$317		\$382	12.2	3.3	29%
SN0007	2.7	\$380		\$234	\$604	\$392	12.6	3.2	37%
SN0009	5.5	\$362		\$164	\$150	\$270	11.1	2.6	55%
SN0010	2.5	\$346		\$259		\$339	12.7	2.7	65%
SN0012	3.0	\$351	\$444	\$178		\$354	12.0	3.0	38%
SN0013	2.6	\$306		\$212		\$266	10.8	2.6	43%
SN0014	3.9	\$427	\$180	\$237		\$340	11.4	3.2	52%
SN0016	2.7	\$368		\$310		\$360	12.4	3.0	49%
SN0017	1.7	\$537				\$537	13.0	4.2	32%
SN0018	1.1	\$361				\$361	12.6	2.9	25%
SN0019	2.9	\$401		\$308		\$393	12.4	3.2	46%
SN0020	4.0	\$412		\$412		\$412	12.0	3.6	53%
SN0021	1.4	\$315				\$315	12.8	2.5	29%
SN0022	1.6	\$323		\$233		\$314	12.3	2.6	35%
Average	2.8	\$389	\$312	\$279	\$377	\$369	12.1	3.2	43%
Top 25%*	2.4	\$338	\$444	\$208	\$604	\$332	12.1	2.8	37%

* The Top 25% are bold and italicised

Table C4 Variable costs – South

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					
SN0002	\$0.13	\$0.13	\$0.03	\$0.09	\$0.20	\$0.58	\$0.24	\$0.03	\$0.00
SN0004	\$0.16	\$0.22	\$0.00	\$0.09	\$0.11	\$0.58	\$0.27	\$0.00	\$0.10
SN0005	\$0.13	\$0.17	\$0.00	\$0.10	\$0.10	\$0.50	\$0.46	\$0.04	\$0.07
SN0006	\$0.07	\$0.14	\$0.03	\$0.20	\$0.07	\$0.51	\$0.26	\$0.01	\$0.29
<i>SN0007</i>	<i>\$0.24</i>	<i>\$0.22</i>	<i>\$0.16</i>	<i>\$0.08</i>	<i>\$0.21</i>	<i>\$0.91</i>	<i>\$0.52</i>	<i>\$0.34</i>	<i>\$0.10</i>
SN0009	\$0.19	\$0.28	\$0.00	\$0.21	\$0.10	\$0.78	\$0.13	\$0.02	\$0.05
SN0010	\$0.18	\$0.09	\$0.01	\$0.08	\$0.10	\$0.45	\$0.42	\$0.47	\$0.36
<i>SN0012</i>	<i>\$0.09</i>	<i>\$0.10</i>	<i>\$0.00</i>	<i>\$0.12</i>	<i>\$0.07</i>	<i>\$0.38</i>	<i>\$0.17</i>	<i>\$0.43</i>	<i>\$0.26</i>
<i>SN0013</i>	<i>\$0.01</i>	<i>\$0.01</i>	<i>\$0.00</i>	<i>\$0.10</i>	<i>\$0.17</i>	<i>\$0.29</i>	<i>\$0.00</i>	<i>\$0.37</i>	<i>\$0.00</i>
SN0014	\$0.09	\$0.24	\$0.10	\$0.10	\$0.09	\$0.62	\$0.71	\$0.66	\$0.13
SN0016	\$0.10	\$0.11	\$0.08	\$0.07	\$0.08	\$0.44	\$0.14	\$0.12	\$0.04
SN0017	\$0.08	\$0.08	\$0.05	\$0.05	\$0.06	\$0.32	\$0.21	\$0.13	\$0.20
SN0018	\$0.09	\$0.09	\$0.01	\$0.09	\$0.08	\$0.36	\$0.38	\$0.16	\$0.20
SN0019	\$0.18	\$0.23	\$0.00	\$0.09	\$0.15	\$0.65	\$0.40	\$0.13	\$0.29
SN0020	\$0.10	\$0.11	\$0.17	\$0.09	\$0.10	\$0.57	\$0.17	\$0.00	\$0.11
<i>SN0021</i>	<i>\$0.07</i>	<i>\$0.09</i>	<i>\$0.00</i>	<i>\$0.11</i>	<i>\$0.09</i>	<i>\$0.35</i>	<i>\$0.60</i>	<i>\$0.82</i>	<i>\$0.45</i>
SN0022	\$0.08	\$0.09	\$0.00	\$0.08	\$0.11	\$0.37	\$0.41	\$0.04	\$0.31
Average	\$0.12	\$0.14	\$0.04	\$0.10	\$0.11	\$0.51	\$0.32	\$0.22	\$0.17
Top 25%*	\$0.10	\$0.10	\$0.04	\$0.10	\$0.13	\$0.48	\$0.32	\$0.49	\$0.20

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
SN0002	\$0.16	\$0.07	\$0.00	\$0.92	\$2.17	\$0.00	\$3.59	\$4.16
SN0004	\$0.24	\$0.09	\$0.03	\$0.56	\$2.09	\$0.14	\$3.53	\$4.11
SN0005	\$0.10	\$0.16	\$0.02	\$0.51	\$1.65	\$0.06	\$3.06	\$3.57
SN0006	\$0.20	\$0.31	\$0.16	\$0.34	\$2.16	\$0.02	\$3.75	\$4.26
<i>SN0007</i>	<i>\$0.07</i>	<i>\$0.61</i>	<i>\$0.72</i>	<i>\$0.08</i>	<i>\$1.74</i>	<i>\$0.00</i>	<i>\$4.19</i>	<i>\$5.10</i>
SN0009	\$0.24	\$0.28	\$0.21	\$0.72	\$1.87	\$0.23	\$3.75	\$4.53
SN0010	\$0.11	\$0.19	\$0.00	\$0.13	\$1.58	\$0.05	\$3.32	\$3.77
<i>SN0012</i>	<i>\$0.16</i>	<i>\$0.17</i>	<i>\$0.00</i>	<i>\$0.21</i>	<i>\$1.55</i>	<i>\$0.10</i>	<i>\$3.05</i>	<i>\$3.42</i>
<i>SN0013</i>	<i>\$0.08</i>	<i>\$0.04</i>	<i>\$0.00</i>	<i>\$0.53</i>	<i>\$1.06</i>	<i>\$0.00</i>	<i>\$2.07</i>	<i>\$2.36</i>
SN0014	\$0.18	\$0.25	\$0.00	\$0.60	\$1.60	\$0.06	\$4.20	\$4.81
SN0016	\$0.16	\$0.14	\$0.02	\$0.41	\$1.88	\$0.00	\$2.92	\$3.36
SN0017	\$0.08	\$0.14	\$0.00	\$0.00	\$2.11	\$0.00	\$2.87	\$3.19
SN0018	\$0.13	\$0.09	\$0.14	\$0.00	\$0.76	\$0.00	\$1.86	\$2.22
SN0019	\$0.09	\$0.26	\$0.09	\$0.17	\$2.30	\$0.17	\$3.90	\$4.55
SN0020	\$0.10	\$0.12	\$0.00	\$0.91	\$2.06	\$0.13	\$3.60	\$4.17
<i>SN0021</i>	<i>\$0.20</i>	<i>\$0.35</i>	<i>\$0.00</i>	<i>\$0.03</i>	<i>\$0.89</i>	<i>\$0.13</i>	<i>\$3.47</i>	<i>\$3.82</i>
SN0022	\$0.09	\$0.07	\$0.13	\$0.09	\$1.19	\$0.28	\$2.62	\$2.99
Average	\$0.14	\$0.20	\$0.09	\$0.37	\$1.69	\$0.08	\$3.28	\$3.79
Top 25%*	\$0.13	\$0.29	\$0.18	\$0.21	\$1.31	\$0.06	\$3.19	\$3.68

* The Top 25% are bold and italicised

Table C5 Overhead costs – South

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
SN0002	\$0.09	\$0.06	\$0.08	\$0.14	\$0.12	\$0.17	\$0.89	\$1.55	\$0.37	\$1.05	\$2.96
SN0004	\$0.11	\$0.10	\$0.11	\$0.34	\$0.04	\$0.34	\$0.71	\$1.74	\$0.39	\$1.38	\$3.51
SN0005	\$0.11	\$0.06	\$0.06	\$0.56	\$0.03	\$0.20	\$0.73	\$1.74	\$0.31	\$0.67	\$2.72
SN0006	\$0.04	\$0.04	\$0.17	\$0.37	\$0.26	\$0.13	\$1.27	\$2.27	\$0.43	\$0.23	\$2.92
<i>SN0007</i>	<i>\$0.02</i>	<i>\$0.01</i>	<i>\$0.02</i>	<i>\$0.47</i>	<i>\$0.00</i>	<i>\$0.12</i>	<i>\$1.12</i>	<i>\$1.76</i>	<i>\$0.26</i>	<i>\$0.00</i>	<i>\$2.03</i>
SN0009	\$0.06	\$0.02	\$0.08	\$0.56	\$0.01	\$0.08	\$0.81	\$1.62	\$0.45	\$0.56	\$2.62
SN0010	\$0.02	\$0.01	\$0.03	\$0.34	\$0.02	\$0.32	\$0.70	\$1.45	\$0.31	\$0.61	\$2.37
<i>SN0012</i>	<i>\$0.03</i>	<i>\$0.08</i>	<i>\$0.08</i>	<i>\$0.38</i>	<i>\$0.31</i>	<i>\$0.44</i>	<i>\$0.85</i>	<i>\$2.18</i>	<i>\$0.41</i>	<i>\$0.74</i>	<i>\$3.34</i>
<i>SN0013</i>	<i>\$0.03</i>	<i>\$0.02</i>	<i>\$0.09</i>	<i>\$0.03</i>	<i>\$0.02</i>	<i>\$0.09</i>	<i>\$0.53</i>	<i>\$0.81</i>	<i>\$0.31</i>	<i>\$0.38</i>	<i>\$1.50</i>
SN0014	\$0.02	\$0.10	\$0.00	\$0.30	\$0.00	\$0.16	\$0.55	\$1.13	\$0.29	\$0.51	\$1.93
SN0016	\$0.09	\$0.01	\$0.09	\$0.63	\$0.00	\$0.07	\$0.84	\$1.72	\$0.68	\$1.10	\$3.49
SN0017	\$0.23	\$0.03	\$0.09	\$0.25	\$0.01	\$0.09	\$0.41	\$1.11	\$0.29	\$1.49	\$2.89
SN0018	\$0.17	\$0.04	\$0.08	\$0.28	\$0.00	\$0.30	\$0.68	\$1.56	\$0.23	\$1.50	\$3.28
SN0019	\$0.01	\$0.07	\$0.00	\$0.64	\$0.01	\$0.26	\$0.66	\$1.66	\$0.27	\$0.55	\$2.48
SN0020	\$0.09	\$0.06	\$0.05	\$0.34	\$0.00	\$0.07	\$0.63	\$1.25	\$0.16	\$0.60	\$2.01
<i>SN0021</i>	<i>\$0.03</i>	<i>\$0.01</i>	<i>\$0.05</i>	<i>\$0.33</i>	<i>\$0.00</i>	<i>\$0.09</i>	<i>\$0.69</i>	<i>\$1.20</i>	<i>\$0.19</i>	<i>\$0.23</i>	<i>\$1.61</i>
SN0022	\$0.02	\$0.00	\$0.09	\$0.36	\$0.00	\$0.04	\$0.64	\$1.16	\$0.16	\$0.31	\$1.63
Average	\$0.07	\$0.04	\$0.07	\$0.37	\$0.05	\$0.18	\$0.75	\$1.52	\$0.32	\$0.70	\$2.55
Top 25%*	\$0.03	\$0.03	\$0.06	\$0.30	\$0.08	\$0.19	\$0.80	\$1.49	\$0.29	\$0.34	\$2.12

* The Top 25% are bold and italicised

Table C6 Variable costs % – South

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
SN0002	1.8%	1.8%	0.5%	1.2%	2.8%	8.1%	3.4%	0.4%	0.0%
SN0004	2.1%	2.9%	0.0%	1.2%	1.5%	7.7%	3.6%	0.0%	1.3%
SN0005	2.1%	2.8%	0.0%	1.6%	1.6%	8.0%	7.3%	0.6%	1.1%
SN0006	0.9%	1.9%	0.5%	2.8%	1.0%	7.1%	3.6%	0.1%	4.1%
SN0007	3.4%	3.1%	2.3%	1.1%	3.0%	12.8%	7.2%	4.4%	1.4%
SN0009	2.6%	3.9%	0.0%	2.9%	1.5%	10.9%	1.9%	0.3%	0.7%
SN0010	3.0%	1.4%	0.1%	1.3%	1.6%	7.3%	6.9%	3.3%	5.9%
SN0012	1.3%	1.5%	0.0%	1.8%	1.0%	5.6%	2.4%	3.7%	3.9%
SN0013	0.2%	0.2%	0.0%	2.6%	4.4%	7.4%	0.0%	9.5%	0.0%
SN0014	1.3%	3.5%	1.4%	1.5%	1.4%	9.1%	10.5%	2.1%	2.0%
SN0016	1.4%	1.6%	1.2%	1.1%	1.1%	6.5%	2.0%	1.7%	0.6%
SN0017	1.4%	1.4%	0.8%	0.8%	1.0%	5.3%	3.4%	2.1%	3.3%
SN0018	1.7%	1.6%	0.1%	1.6%	1.5%	6.5%	6.9%	2.9%	3.7%
SN0019	2.5%	3.3%	0.0%	1.3%	2.1%	9.3%	5.7%	1.8%	4.1%
SN0020	1.7%	1.8%	2.7%	1.5%	1.7%	9.3%	2.8%	0.0%	1.8%
SN0021	1.3%	1.6%	0.0%	2.0%	1.6%	6.5%	11.0%	15.0%	8.2%
SN0022	1.7%	2.0%	0.0%	1.8%	2.4%	7.9%	8.8%	0.8%	6.8%
Average	1.8%	2.1%	0.6%	1.7%	1.8%	8.0%	5.1%	2.9%	2.9%
Top 25%*	1.5%	1.6%	0.6%	1.9%	2.5%	8.1%	5.2%	8.1%	3.4%

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
SN0002	2.2%	0.9%	0.0%	12.9%	30.5%	0.0%	50.3%	58.4%
SN0004	3.2%	1.2%	0.4%	7.4%	27.4%	1.8%	46.3%	54.0%
SN0005	1.5%	2.5%	0.3%	8.2%	26.3%	1.0%	48.8%	56.7%
SN0006	2.8%	4.3%	2.2%	4.7%	30.0%	0.3%	52.2%	59.3%
SN0007	1.0%	8.6%	10.1%	1.2%	24.5%	0.0%	58.8%	71.6%
SN0009	3.3%	3.9%	3.0%	10.1%	26.2%	3.2%	52.5%	63.3%
SN0010	1.9%	3.1%	0.0%	2.2%	25.7%	0.9%	54.1%	61.5%
SN0012	2.3%	2.6%	0.0%	3.1%	22.9%	1.5%	45.0%	50.6%
SN0013	2.0%	1.1%	0.0%	13.8%	27.3%	0.0%	53.7%	61.1%
SN0014	2.7%	3.7%	0.0%	8.9%	23.8%	0.9%	62.2%	71.4%
SN0016	2.3%	2.1%	0.3%	6.0%	27.5%	0.0%	42.6%	49.0%
SN0017	1.3%	2.4%	0.0%	0.0%	34.7%	0.0%	47.2%	52.5%
SN0018	2.4%	1.7%	2.6%	0.0%	13.7%	0.0%	33.9%	40.4%
SN0019	1.2%	3.7%	1.3%	2.5%	32.8%	2.4%	55.5%	64.8%
SN0020	1.6%	1.9%	0.0%	14.8%	33.3%	2.0%	58.2%	67.5%
SN0021	3.8%	6.5%	0.0%	0.5%	16.5%	2.4%	63.8%	70.3%
SN0022	2.0%	1.5%	2.9%	2.0%	25.9%	6.1%	56.7%	64.6%
Average	2.2%	3.0%	1.4%	5.8%	26.4%	1.3%	51.9%	59.8%
Top 25%*	2.3%	4.7%	2.5%	4.7%	22.8%	1.0%	55.3%	63.4%

* The Top 25% are bold and italicised

Table C7 Overhead costs – South

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
SN0002	1.2%	0.8%	1.1%	2.0%	1.6%	2.4%	12.5%	21.7%	5.1%	14.8%	41.6%
SN0004	1.4%	1.3%	1.4%	4.5%	0.6%	4.4%	9.3%	22.9%	5.1%	18.1%	46.0%
SN0005	1.8%	1.0%	0.9%	8.8%	0.4%	3.2%	11.5%	27.7%	4.9%	10.7%	43.3%
SN0006	0.6%	0.5%	2.4%	5.1%	3.6%	1.7%	17.7%	31.6%	6.0%	3.1%	40.7%
SN0007	0.3%	0.1%	0.3%	6.6%	0.0%	1.7%	15.7%	24.7%	3.7%	0.0%	28.4%
SN0009	0.9%	0.3%	1.1%	7.8%	0.2%	1.1%	11.3%	22.6%	6.3%	7.8%	36.7%
SN0010	0.4%	0.1%	0.5%	5.6%	0.3%	5.3%	11.4%	23.6%	5.0%	9.9%	38.5%
SN0012	0.5%	1.2%	1.2%	5.6%	4.6%	6.5%	12.6%	32.3%	6.1%	11.0%	49.4%
SN0013	0.7%	0.5%	2.3%	0.7%	0.6%	2.3%	13.7%	20.9%	8.1%	9.9%	38.9%
SN0014	0.4%	1.5%	0.0%	4.5%	0.0%	2.4%	8.1%	16.8%	4.3%	7.5%	28.6%
SN0016	1.3%	0.1%	1.3%	9.1%	0.1%	1.0%	12.2%	25.1%	9.9%	16.0%	51.0%
SN0017	3.8%	0.5%	1.6%	4.1%	0.1%	1.5%	6.8%	18.2%	4.8%	24.5%	47.5%
SN0018	3.1%	0.7%	1.4%	5.0%	0.1%	5.5%	12.4%	28.3%	4.1%	27.2%	59.6%
SN0019	0.2%	1.0%	0.0%	9.1%	0.1%	3.8%	9.4%	23.6%	3.9%	7.8%	35.2%
SN0020	1.4%	1.0%	0.9%	5.6%	0.0%	1.2%	10.2%	20.3%	2.6%	9.6%	32.5%
SN0021	0.5%	0.2%	0.9%	6.0%	0.0%	1.7%	12.7%	22.0%	3.5%	4.2%	29.7%
SN0022	0.5%	0.1%	2.0%	7.9%	0.0%	0.8%	13.8%	25.0%	3.5%	6.8%	35.4%
Average	1.1%	0.6%	1.1%	5.8%	0.7%	2.7%	11.9%	24.0%	5.1%	11.1%	40.2%
Top 25%*	0.5%	0.5%	1.2%	4.7%	1.3%	3.1%	13.7%	25.0%	5.3%	6.3%	36.6%

* The Top 25% are bold and italicised

Table C8 Capital structure – South

Farm Assets				Other farm assets (per usable hectare)					
Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	Total assets	
\$/ha	\$/cow	\$/ha	\$/cow	\$/ha	\$/ha	\$/ha	\$/ha	\$/ha	
Average	\$20,242	\$15,418	\$1,367	\$1,503	\$1,923	\$1,933	\$313	\$257	\$22,582

Liabilities		Equity	
Liabilities per usable hectare	Liabilities per milking cow	Equity per usable hectare	Average equity
\$/ha	\$/cow	\$/ha	%
Average	\$5,341	\$4,623	73%

Table C9 Historical data – South
Average farm income, costs and profit per kilogram of milk solids

Income					Variable costs							
Year	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)
2011-12	\$6.64	\$7.11	\$7.48	\$8.00	\$0.31	\$0.34	\$0.25	\$0.26	\$2.86	\$3.06	\$3.42	\$3.67
2012-13	\$6.03	\$6.30	\$6.95	\$7.26	\$0.32	\$0.34	\$0.24	\$0.25	\$3.01	\$3.15	\$3.57	\$3.74
2013-14	\$7.12	\$7.23	\$7.98	\$8.10	\$0.32	\$0.32	\$0.21	\$0.21	\$3.20	\$3.25	\$3.73	\$3.78
2014-15	\$7.28	\$7.28	\$8.25	\$8.25	\$0.30	\$0.30	\$0.21	\$0.21	\$3.28	\$3.28	\$3.79	\$3.79
Average		\$6.98		\$7.90		\$0.32		\$0.24		\$3.18		\$3.74

Note: 'Real' dollar values are the nominal values converted to 2014-15 dollar equivalents by the consumer price index (CPI) to allow for inflation

Overhead costs							Profit							
Year	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)		
2011-12	\$1.35	\$1.45	\$1.05	\$1.12	\$2.40	\$2.57	\$1.65	\$1.76	\$0.73	\$0.78	\$0.92	\$0.99	5.5%	4.9%
2012-13	\$1.44	\$1.51	\$1.12	\$1.17	\$2.56	\$2.67	\$0.81	\$0.85	\$0.66	\$0.69	\$0.15	\$0.16	2.7%	0.5%
2013-14	\$1.54	\$1.56	\$1.16	\$1.17	\$2.69	\$2.73	\$1.56	\$1.58	\$0.61	\$0.62	\$0.95	\$0.96	4.8%	1.2%
2014-15	\$1.52	\$1.52	\$1.02	\$1.02	\$2.55	\$2.55	\$1.91	\$1.91	\$0.56	\$0.56	\$1.35	\$1.35	5.3%	5.7%
Average		\$1.51		\$1.12		\$2.63		\$1.53		\$0.66		\$0.87	4.6%	3.1%

Table C10 Historical data – South
Average farm physical information

Year	Total usable area	Milking area	Water used	Number of milking cows	Milking cows per useable area	Milk sold	Milk sold	Estimated grazed pasture*	Estimated conserved feed*	Home grown feed as % of ME consumed	Concentrate price	
	ha	ha	mm/ha	hd	hd/ha	kg MS/cow	kg MS/ha	t DM/ha	t DM/ha	% of ME	Nominal (\$/T DM)	Real (\$/T DM)
2011-12	351	156	1,142	450	1.5	495	728	6.8	0.9	52%	\$301	\$323
2012-13	323	151	805	337	1.1	523	601	6.5	1.2	55%	\$311	\$325
2013-14	381	139	765	350	1.0	541	546	6.2	1.0	54%	\$377	\$383
2014-15	372	165	1076	430	1.1	540	597	6.7	1.8	57%	\$389	\$389
Average	356	153	947	392	1.2	525	618	6.5	1.2	54%		\$355

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

Appendix D Glossary of terms and abbreviations

All other income

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

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, 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 people costs and depreciation.

Cost of production

Variable costs plus overhead costs. Usually expressed in terms of the main enterprise output ie kilograms of milk solids.

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 not

cash, 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 and total overhead costs.

EBIT %

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

Employed labour cost

Cash cost of any paid employee, including on-costs such as superannuation, workcover etc.

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

Total interest plus total lease costs paid.

Full time equivalent (FTE)

Standardised people unit. Equal to 2400 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) × dry matter content (DM %) × 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 share farmer time in the business, taken as the greater of \$400 per cow less employed labour or \$25 per hour.

Liability

Money owed to someone else, e.g. family or an institution such as a bank

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.

Milking area

Total usable area minus outblocks or run-off areas.

Net farm income

Previously reported as business profit

Earnings before interest and tax minus interest and lease costs. The amount of profit available for capital investment, loan principal repayments and tax.

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, rents from cottage, rebates and grants.

Overhead costs

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

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 of productivity of the total labour resources in the business.

Labour resource

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

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.

Return on assets (RoA)

Earnings before interest and tax divided by the value of total assets under management.

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, rubber ware, vacuum pump oil etc.

Total income

See gross farm income.

Total usable area

Total hectares managed minus that area of land which is of little or no value for livestock production e.g. house and shed area.

Total water used

Total rainfall plus average irrigation water used expressed as millimetres per hectare, where irrigation water is calculated as: (total megalitres of water used/total usable area) × 100.

Variable costs

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

List of abbreviations

AI	Artificial insemination.	FTE	Full time equivalent.	or 1/25th of an inch of rainfall.	
BPR	Break-even price required.	GWP	Global Warming Potential.	MS	Milk solids (proteins and fats).
CH₄	Methane gas.	ha	Hectares.	N₂O	Nitrous oxide gas.
CO₂	Carbon dioxide gas.	hd	Head of cattle.	Q1	First quartile, i.e. the value of which one quarter, or 25%, of data in that range is less than.
CO₂-e	Carbon dioxide equivalent.	HRWS	High Reliability Water Shares.	Q3	Third quartile, i.e. the value of which one quarter, or 25%, of data in that range is greater than.
CoP	Cost of production.	kg	Kilograms.	RoA	Return on assets.
DEDJTR	Department of Economics Development, Jobs, Transport and Resources, Victoria	LRWS	Low Reliability Water Shares.	RoE	Return on equity.
DM	Dry matter of feed stuffs.	ME	Metabolisable energy (MJ/kg).	t	Tonne = 1,000 kg.
EBIT	Earnings before interest and tax.	MJ	Megajoules of energy.		
		mm	Millimetres. 1 mm is equivalent to 4 points		



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