Dairy Australia
Your Levy at Work

Dairy Farm Monitor Project

New South Wales

Annual Report 2012/13

State Government Victoria
Department of Environment and Primary Industries

NSW Government
Department of Primary Industries

Acknowledgements

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To find out the latest information on the project visit the project website at; www.dairyaustralia.com.au/dairyfarmmonitor

Or the NSW Department of Primary Industries website:
www.dpi.nsw.gov.au/agriculture/livestock/dairy-cattle

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The information contained in this publication is based on knowledge and understanding at the time of writing January 2014. However, because of advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of the Department of Trade and Investment, Regional Infrastructure and Services or the user's independent adviser.

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What's new in 2013!

The Dairy Farm Monitor Report for 2012/13 includes a number of changes since last year's report. The following highlights the most significant of these.

> The Figures in the regional chapters that were expressed on a dollars per hectare basis are now expressed on a dollars per kilogram of milk solids basis and wherever possible data is also presented on a litres basis.
> Cost of production reported in the regional chapters is calculated as variable and overhead costs including any changes in feed inventory or livestock trading losses.
> The criteria for items included as other farm income is only those items that are included in the balance sheet and the business draws an income from. For example milk share dividends are included as other farm income. Farm rebates and grants are included net of costs.

Keep an eye on the project website for further reports and updates on the project, including the 2012/13 Dairy Farm Monitor Project at: www.dairyaustralia.com.au dairyfarmmonitor or on the NSW DPI website: www.dpi.nsw.gov.au/agriculture/livestock/dairy-cattle

Notes on the presentation of data in this report

This section of the report defines and explains the calculations used and the data presented throughout the report. The different sections of the report are discussed and the number of participant farms in the dairying regions listed.

This section presents a guide to the layout of the report and should not be confused with section II Farm Monitor Method which discusses the methodology for the farm data analysis.

This report is presented in the following parts;

> Summary
> Farm monitor method
> State wide overview
> North region overview
> South region overview
> Business confidence survey
> Appendices

The report presents visual descriptions of the data for the 2012/13 financial year. Data is presented for individual farms, regional averages and top 25% of farms ranked by return on assets. Reported averages are calculated as the mean. These averages should in no way be considered averages for the population of farms in that region given the small sample size and the fact that farms are not randomly selected.

Return on assets is the determinate of the top producers, providing an assessment of the performance of the whole farm while accounting for differences in location, the quality of land and production system.

The Q1 - Q3 data range for key indicators is also presented in the tables to give 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 Q3 value is the quartile 3 value. That is, the value of which one quarter (75%) of data in that range is greater than. This means that the middle 50% of data sits between the Q1-Q3 data range. Given the differences in variation in the regional data, caution is highly recommended when comparing one region to another.

For clarity in the report, groups of participating farms in each region are referred to by their regional name;

> The 14 participating farms in the Northern New South Wales region are referred to as 'the North'.
> The 14 participating farms in the Southern and Inland New South Wales region 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 farms are paid according to milk solids, and wherever possible milk production data is also presented in litres in brackets. The report will mostly focus on measures on a per kilogram of milk solids basis, with the corresponding litres also reported. There are also the occasional references to measures on a per hectare or per cow basis. Where financial data is reported in cents / litre, this is derived from the total litres produced per farm, and is not corrected for varying levels of milk components.

The appendix tables contain the majority of financial information on a per kilogram of milk solids basis.

The following ready reckoner may be a useful reference for converting between kilograms of milk solids and litres;

In this example the 2012/13 State average of 3.9% butterfat and 3.3% protein milk components result in a conversion factor of 14 (1/ (3.9+3.3)).

To convert from $/kg MS to $/litre divide by a factor of 14

eg. $6.00/kg MS ÷ 14 = $0.43/l (43¢/l)

To convert from $/litre to $/kg MS multiply by a factor of 14

eg. $0.43/l (43¢/l) x 14 = $6.00/kg MS

To convert kg MS/cow to litres/cow divide by a factor of 7.2 (3.9 + 3.3)

eg. 500 kg MS/cow ÷ 7.2 x 100 = 6,944 l/cow

To convert litres/cow to kg MS/cow multiply by a factor of 7.2 (3.9 + 3.3)

eg. 6,944 l/cow x 7.2 ÷ 100 = 500 kg MS/cow

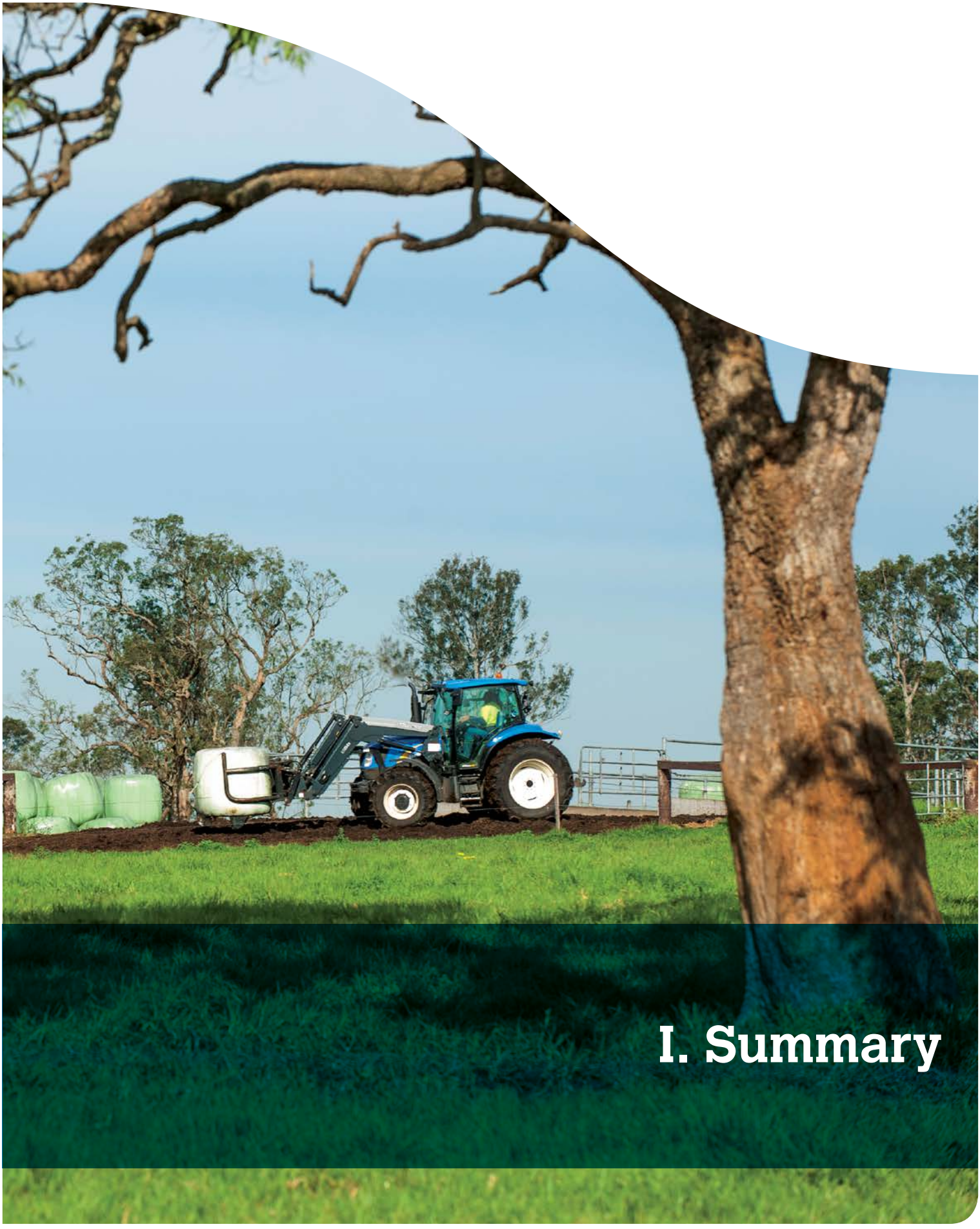
The methodology used is the same as that used in the Victorian Dairy Farm Monitor Project, and various other referenced sources. Attention should be paid to methodology when directly comparing figures from this report with those generated via other means. More detail on the methodology is provided in Part II.

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

In the Statewide overview, the top 25% consists of 7 farms ranked on return on assets on a state wide basis, and are taken by considering all 28 farms as the one sample and not from combining the top farms from each region. In the two regional overview sections, the top 25% refers to the top 4 farms out of the 14 in that region.

Discussion on 'last year' refers to the 2011/12 Dairy Farm Monitor Project report. It must be noted that not all of the participants from the 2011/12 report are in the 2012/13 report and that there are also new participants in this year's dataset, which have not been in previous years. It is important to keep this in mind when comparing datasets between years. Farms that were included in last year's sample are noted at the start of each regional chapter.

Please note that text around explanations of terms will be repeated within the different chapters.



I. Summary

Summary

This is the second year of the Dairy Farm Monitor Project in New South Wales. The project aims to provide the New South Wales dairy industry with valuable farm level data relating to profitability and production.

Data was collected from 28 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.

Interested participants have been selected with the objective of representing a distribution of farm sizes, herd sizes and geographical locations within the state. Not all the farms who participated last year are in this year's report. The results published in this report should not be taken to represent population averages as the participant farms were not selected via random population sampling.

In 2012/13 variable seasonal conditions and lower milk prices were the main influences on farm profitability in NSW. Across the North, farms experienced extremes of very dry conditions followed by record rainfall events in summer 2013. In contrast the South had average rainfall and then became dry in the second half of the year. Input costs rose primarily driven by a 35% increase in fodder purchases as farmers attempted to manage the extremes in rainfall. Milk prices declined by around 7% with the average price received across all farms $6.43 / kilogram of milk solids (46 cents/litre), down from $6.88 /kg MS (49 c/l) last year. These challenging conditions resulted in average whole farm earnings before interest and tax (EBIT) falling by 58% to $98,149 while average return on assets fell to 1.7%.

In the North there were generally very dry conditions along most coastal regions from June 2012 until January 2013, with many farmers bracing for another prolonged dry period. However this changed dramatically with record rainfalls recorded in some regions from January to March, bringing about yet another major flood event impacting the northern and central coastal regions. These floods caused significant damage to infrastructure and disruption to normal farm production, with the impact felt for several months.

For many farmers in the North, this is the fourth or fifth consecutive year where they have experienced damaging floods, and this places a huge strain on people both physically, emotionally and financially. This has been exacerbated by a 4% decline in milk price received during 2012/13, particularly during the spring when two tiered milk prices were in play. Farmers supplying processors in the liquid milk market faced a reduction in allocations of tier one contracts and severe two tier pricing in the winter and spring. Cost of production increased slightly on last year, as the higher prices for purchased feed generally offset any cost cutting in other areas. This led to a drop in net farm income to -$89,706 and seven of the 14 farms recorded negative net farm income.

Across the South region, milk price fell 9% due to the weaker Victorian milk prices. Processors sent clear market signals against oversupply of milk in spring and summer, resulting in both lower milk production and income in 2012/13 than last year. Farms experienced average rainfall during the first half of the year, and then a fairly dry second half. Fodder became expensive, increasing 26% to $220/t DM for purchased hay, and hard to source as the dry weather continued. The late frosts and lack of moisture impacted on the grain harvest increasing the price of concentrates to $311/t DM on average. The reduced gross income due to lower milk prices, plus higher costs of production especially in purchased fodder and grain costs, has contributed to the decline in farm returns. Net farm income fell to $27,832 with seven of the 14 farms recording negative net farm income for the financial year.

Almost three quarters of farmers expect their farm business returns to improve in 2013/14; as the majority of farmers anticipate improved milk prices and decline in some input costs in 2013/14. Declining terms of trade, labour issues and seasonal conditions were the top three issues farms identified over the next 12 months. Over the longer term labour management, succession planning and milk prices were front of mind for participant farmers. A number of farms also indicated that they are positive for the long term future of the industry, especially following the entry of Murray Goulburn into the NSW liquid milk market.

II. Farm monitor method

Farm monitor method

This section of the report explains the methodology behind how figures in the Dairy Farm Monitor Project (DFMP) are calculated and what they mean. It helps put farm business economic terminology into context.

The methodology employed to generate the profitability and productivity data in this report was adapted from that described in *The Farming Game* (Malcolm *et al*. 2005) and is consistent with that used in 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 will vary between financial benchmarking programs. Standard dollar values for things 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: Dairy Farm Monitor Project method

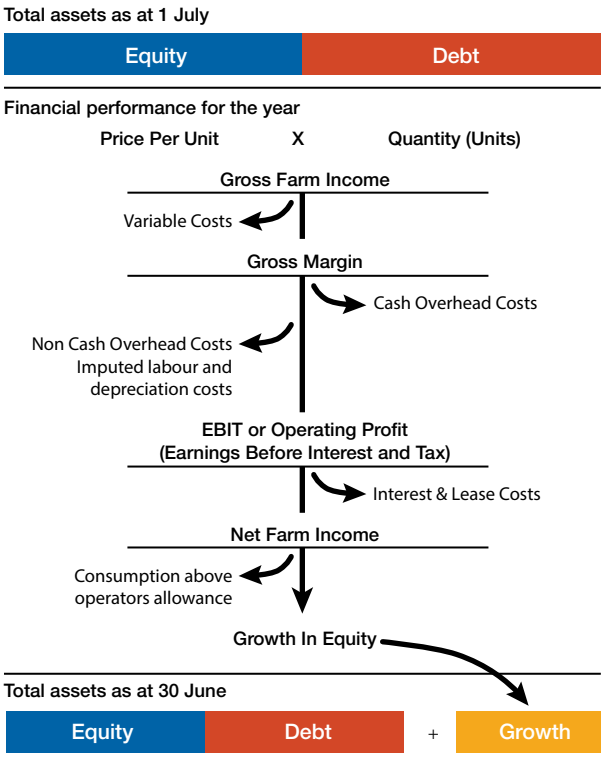


Figure 1 demonstrates how all of the different farm business economic terms come together and are calculated. It is adapted from an initial diagram obtained from Bill Malcolm (2008) at the University of Melbourne. The diagram shows the different profitability measures as certain costs are deducted from total income. It also discusses capital and growth.

Growth is achieved by investing in assets which generate income. These assets can be owned with equity (one's own capital) and debt (borrowed capital), as shown in Figure 1 above. In order for the assets to generate income they need to be farmed and managed, which involves incurring costs. The amount of growth is dependent on the maximisation of income and minimisation of costs, or cost efficiency relative to income generation.

The method is also shown using the state average results in Figure 2. Production and economic data are identified to indicate how the terms are calculated and how they all fit together.

Gross farm income

The farming business generates a total income which can be income from milk cash income (net), livestock trading profit, feed inventory change or other sources such as share dividends. The main source of income, that from milk, is calculated simply by multiplying price received per unit by the number of units. For example dollars per kilogram milk solids multiplied by kilograms of milk solids. Subtracting certain costs from total income gives different profitability measures.

Variable costs

Variable costs are costs that are specific to an enterprise, such as herd, shed and feed costs, and vary directly in relation to the size of the enterprise. Subtracting variable costs from total income, only for the dairy enterprise, gives a 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.

Overhead costs

Overhead costs are costs that are not directly related to an enterprise as they are expenses incurred through the general operating of the business. The DFMP separates overheads into cash overheads and non-cash overheads, to distinguish between cash flows of the business. Cash overheads are those fixed costs such as 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 operator's allowance for labour and management is also a non-cash overhead that must be costed and deducted from income if a realistic estimate of costs, profit and 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. EBIT 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 left over is business profit (after tax) or surplus and therefore growth, as it 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 (RoA) 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. EBIT expressed as a return on total assets is the return from farming. There is also a further return to the asset from any increase in the value of the assets over the year, such as land value. If land value goes up 5% over the year, this is added to the return from farming to give total return to the investment. This return to total assets can be compared with the performance of alternative investments with similar risk in the economy.

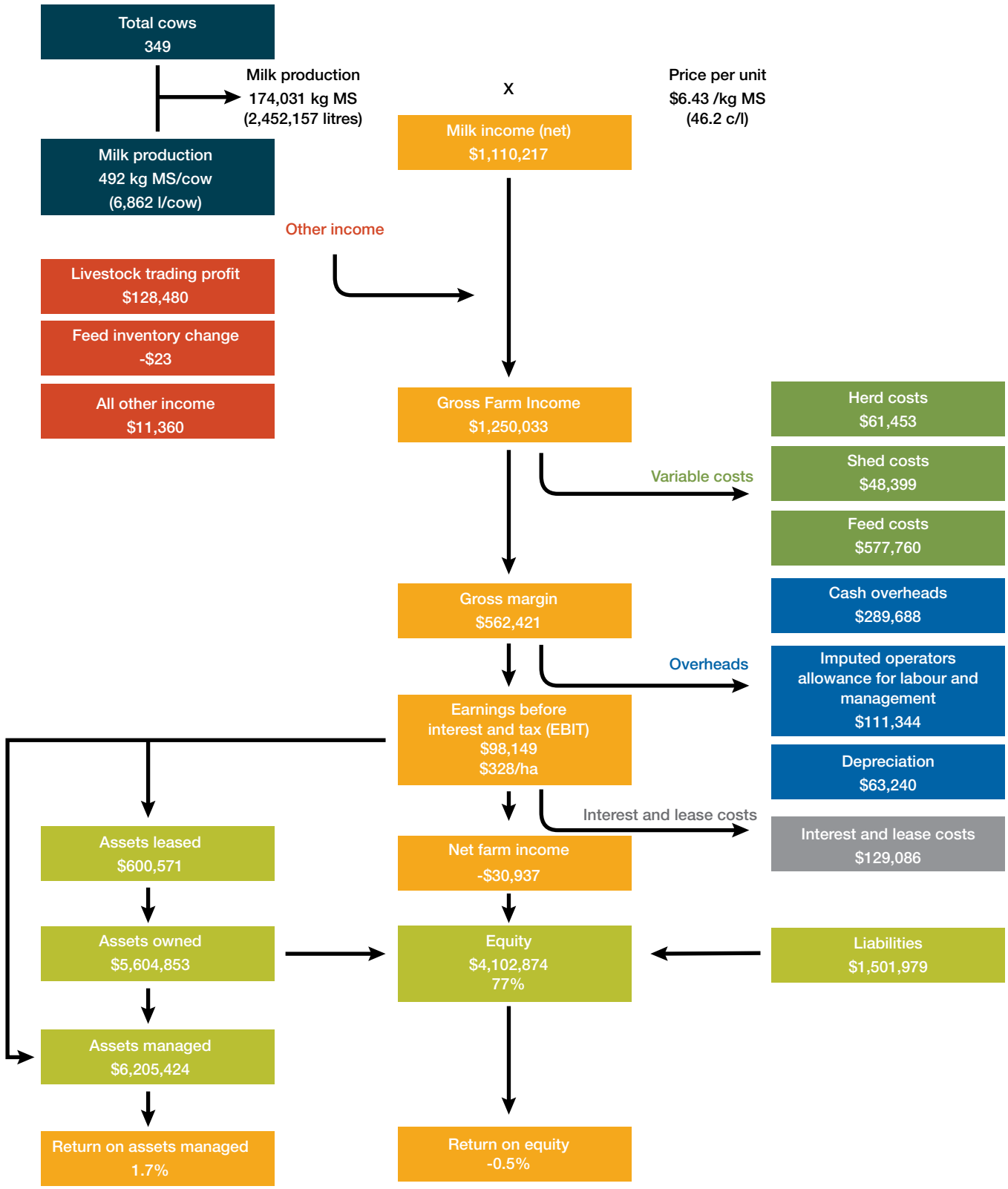
In 2012/13 RoA has replaced EBIT as the final financial measure used to gauge the profitability of a farming business. Return on asset enables a more complete assessment to be made of individual and between different farming businesses as it ignores how the operation is financed while also accounting for the difference in the productive capacity of land in different areas and regions.

In Figure 1 total assets are visually represented by debt and equity. The debt:equity ratio, or equity per cent 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 (RoE) measures the owner's rate of return on their own capital investment in the business. It is net profit expressed as a percentage of total equity (one's own capital). The DFMP reports RoE with and without capital appreciation. This is to distinguish between productivity gains (RoE without capital appreciation) and capital gains (RoE with capital appreciation).

Return on asset is used as the final financial measure to gauge the profitability of a farming business.

Figure 2: Dairy Farm Monitor Project Method profit map—NSW state average data[1]



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

Part One: Statewide overview

Statewide overview

This section of the report compares the average performance, for a range of physical and financial indicators for all participant farms across New South Wales, with the averages from the North and South regions reported.

Farms in the North region range in location from the Queensland border to the Hunter Valley along the coast and hinterland, and west to the Tamworth region. They are generally characterised as having moderate to high rainfall, limited irrigation, a kikuyu / annual ryegrass pasture base with some summer crops. The Southern group includes farms along the coast from Sydney to Bega, 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, larger herds and farm size. This grouping reflects general similarities among farm systems, and the influences on milk pricing across NSW.

The approximate locations of the participating farms are shown in Figure 3.

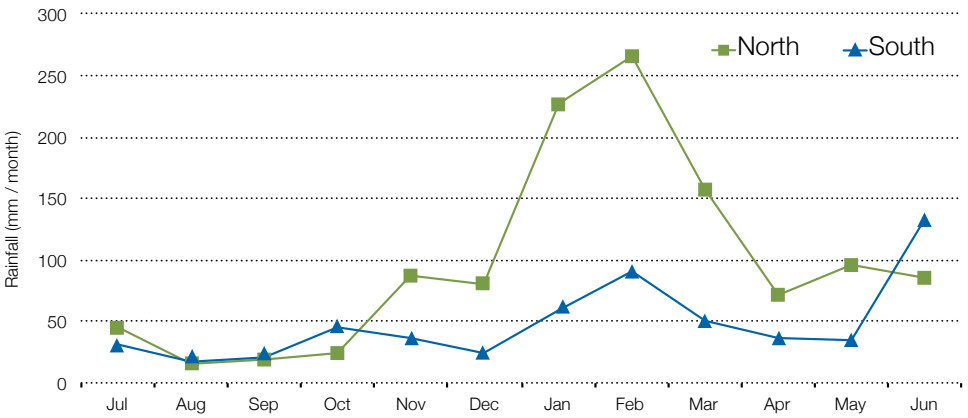
2012/13 Seasonal conditions

There was a wide variation in rainfall in NSW during 2012/13, swinging from extremely dry conditions in the first half of the year, followed by above average rainfall from January to March, particularly in the northern half of the state. This resulted in flooding in the coastal regions in autumn, and also on the south coast in June 2013. The regional chapters provide more detail on the 2012/13 seasonal conditions.

Figure 4 shows the rainfall pattern during the year.

Figure 3: Distribution of participant farms across NSW

Figure 4: 2012/13 monthly rainfall



Whole farm analysis

There is a large range in farm sizes and herd sizes across the 28 farmers participating, so care is required when interpreting the averages.

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

Rainfall in the north was on average twice as much as received in the South, and total water use per hectare reflected the wetter year in the north region.

Farms in the South recorded higher average labour efficiency than the North both in cows milked and milk solids produced per labour unit.

Whilst average farm size of the North farms appears larger than the South, there is one very large farm of 1500 ha that is distorting the group average. If the median figure for usable hectares is taken, the farm size for the North would be 221ha, which is far more representative of the whole group.

So although this is not reflected well in this table, in general, the farms in the South tend to be larger in size, milk more cows and produce more milk per hectare,

Figure 5 provides a visual representation of the average farm financial performance. The blue colours represent income per hectare added vertically to give gross income. From gross income, we can subtract the green variable costs, to give the grey gross margin values. From the gross margin we subtract the red/orange overhead costs to give us the yellow earnings before interest & tax. The legend for Figure 5 and the values for category can be found in Table 2.

Gross farm income

Gross income includes all farm income, whether that is income from milk sales, a change in inventories of stock or feed or cash income from livestock trading. Income from sources such as farm owned shares, interest from bank accounts and rebates or grants is included in other income.

The variation in gross income per kilogram of milk solids between the regions closely reflects the difference in milk income between the two regions. While Figure 5 shows just how much milk income dominates gross income overall, other sources are still important to the farm business. Across the state, income from sources other than milk accounted for 8-13% of gross farm income.

Variable costs

Variable costs are costs directly associated with production. Examples include animal health, pasture and fodder growing costs, contract services, supplementary feeding, and agistment. Figure 5 shows the large proportion of costs contributed by purchased feed and agistment (seen as dark green), particularly in the South. Home grown feed was the other major variable cost.

The total cost of feed accounted for around 50% of the total cost of production; and around 84% of total variable costs in both regions. See Appendix Tables 6 for a breakdown of variable costs as a percentage of total costs in each region.

The gross margin is equal to gross income minus total variable costs. While commonly used to compare enterprises that can use a similar capital structure like sheep or beef, it can be a useful measure in dairy to analyse changes on farm that don't require capital investment. The statewide average gross margin was $3.42 /kg MS (25 c/l), which is a 17% decline from $4.14 / kg MS (30 c/l) last year.

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 the cost of people's time. Imputed labour cost is an estimate of the cost of the time spent in the business by people with a share in the business such as the owner, the owner's family or a sharefarmer that owns assets in the business. The imputed labour cost is calculated as $25 per hour of imputed labour performed by either the owner operator or family members.

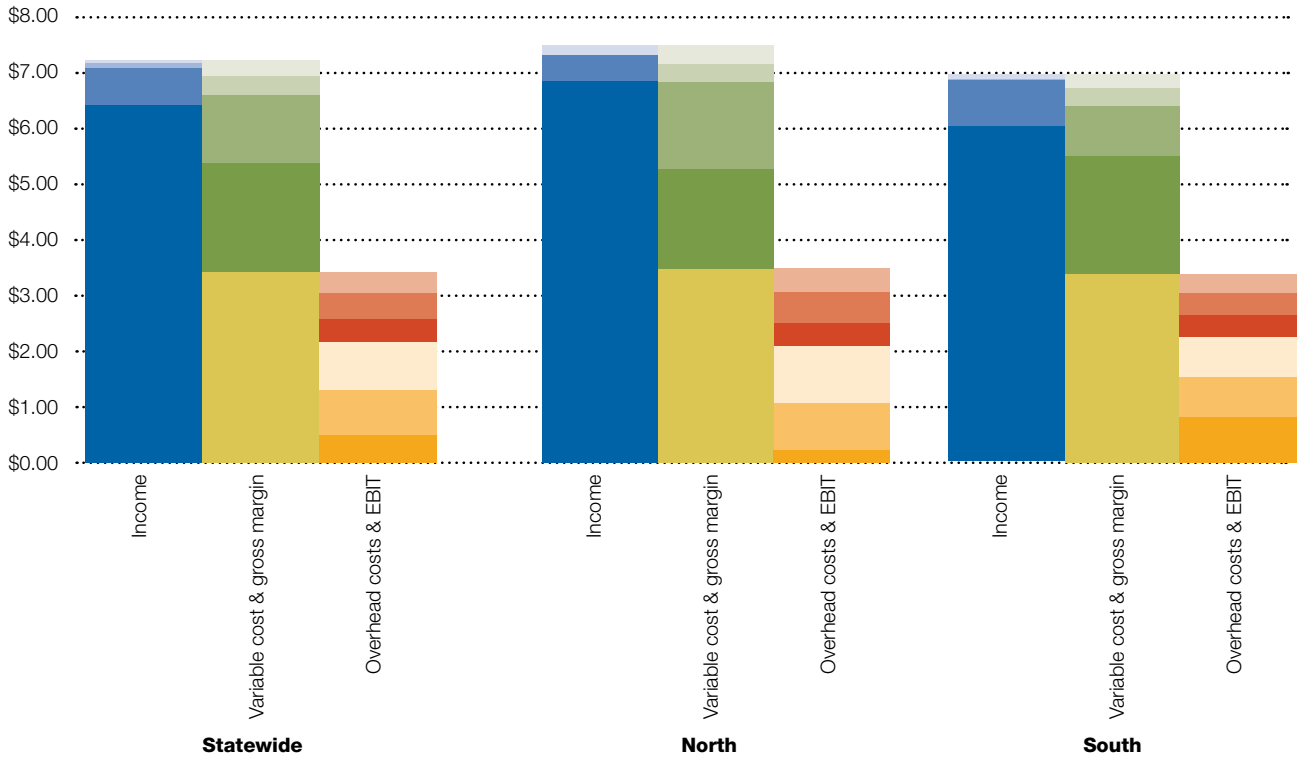
Table 2 shows that participants in the North had higher average variable and overhead costs per kilogram of milk solids than those in the South. The North farmers had higher home grown feed costs but lower purchased feed costs than the South. They also tended to have higher labour costs, both employed and imputed than the South. Total labour costs were $1.87 / kg MS (14 c/l) in the North compared to $1.45 / kg MS (10 c/l) in the South.

Table 1: Average farm physical data—state overview

Farm physical parameters	Statewide	North	South
Number of farms in sample	28	14	14
Herd size (max no. cows milked for at least 3 months)	349	361	337
Annual rainfall 12/13	876	1,174	579
Water used (irrigation + rainfall) (mm/ha)	1,064	1,323	805
Total usable area (hectares)	329	335	323
Stocking rate (milking cows per usable hectares)	1.2	1.3	1.1
Milk sold (kg MS /cow)	492	460	523
Milk sold (kg MS /ha)	608	615	601
Milk price received ($/kg MS)	$6.43	$6.83	$6.03
Labour efficiency (milking cows / FTE)	76	69	82
Labour efficiency (kg MS / FTE)	37,384	32,222	42,545

Feed inventory movements were variable across the regions, with some farmers using up all reserved fodder during the dry spring, and others able to replenish reserves during autumn.

Figure 5: average farm financial performance per kilogram milk solids



Average farm financial performance per kilogram milk solids – statewide (including legend for Figure 5)

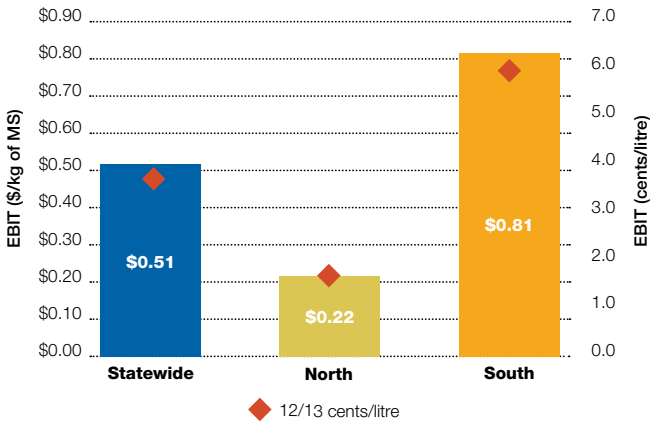
	Farm income and cost category	Statewide		North		South	
	Income	**$/kg MS**	**cents/litre**	**$/kg MS**	**cents/litre**	**$/kg MS**	**cents/litre**
	Feed inventory change	$0.03	0.3	-$0.01	0.0	$0.07	0.5
	Other farm income	$0.10	0.8	$0.18	1.3	$0.03	0.2
	Livestock trading profit	$0.64	4.5	$0.46	3.3	$0.81	5.8
	Milk income (net)	$6.43	46.4	$6.83	49.3	$6.03	43.5
	Gross farm income	**$7.20**	**52.0**	**$7.46**	**53.9**	**$6.95**	**50.0**
	Variable costs						
	Shed cost	$0.28	2.0	$0.32	2.3	$0.24	1.7
	Herd cost	$0.33	2.4	$0.33	2.4	$0.32	2.3
	Home grown feed cost	$1.22	8.8	$1.55	11.2	$0.88	6.4
	Purchased feed and agistment	$1.96	14.1	$1.79	12.9	$2.13	15.2
	Total variable costs	**$3.79**	**27.2**	**$4.00**	**28.8**	**$3.57**	**25.6**
	Gross margin	**$3.42**	**24.7**	**$3.46**	**25.1**	**$3.37**	**24.4**
	Overhead costs						
	All other overheads	$0.37	2.7	$0.42	3.0	$0.33	2.4
	Repairs and maintenance	$0.47	3.4	$0.55	4.0	$0.39	2.8
	Depreciation	$0.40	2.9	$0.41	2.9	$0.39	2.8
	Employed labour	$0.87	6.2	$1.02	7.3	$0.72	5.1
	Imputed owner/operator and family labour	$0.79	5.8	$0.85	6.3	$0.73	5.3
	Total overhead costs	**$2.90**	**21.0**	**$3.25**	**23.5**	**$2.56**	**18.5**
	Earnings before interest & tax	**$0.51**	**3.7**	**$0.22**	**1.6**	**$0.81**	**5.9**

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 this figure excludes tax and interest and lease costs, it can be used to analyse the operational efficiency of the whole farm business.

Average EBIT was mostly positive across the state, when expressed as per kilogram of milk solids (Figure 6), however it has fallen significantly from last year due to the challenging conditions of lower milk price and variable rainfall. The statewide average last year was $1.34 /kg MS (10 c/l), and this year it is down to $0.51 /kg MS (4 c/l). The North has had a 78% decrease from $1.03 to $0.22 / kg MS (8 c/l down to 2 c/l), whilst the South has declined by 50% from $1.65 to $0.81 /kg MS (12 c/l down to 6 c/l).

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

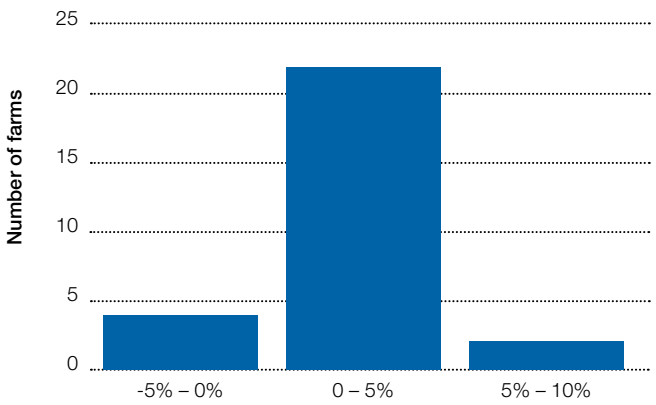


Return on assets and equity

The return on assets is the earnings before interest & tax 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 this production system and not elsewhere in the economy. Return on assets is sometimes referred to return on capital.

The average return on assets for participants across the state was lower than last year, down from 4.3% in 2011/12 to 1.7% in 2012/13, with a range from -3.6% to 9.4% (Figure 7 and Appendix Tables 1). Twenty four of the 28 participant farms had a positive return on assets, while the remaining two farms reported a return on assets of between zero and -0.5 per cent.

Figure 7: Distribution of farms by return on assets



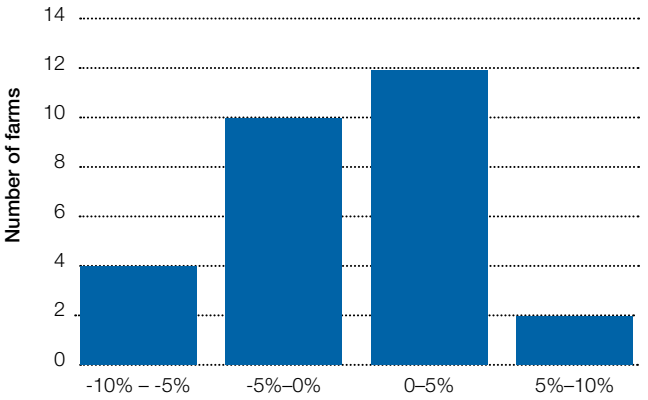
The market value of land varied widely across the 28 farms in the group, according to location and land capability. Values for livestock and permanent water rights have been standardised across all farms at market value.

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

The average return on equity for the 28 farms during 2012/13 was -0.5%, with a range from -8.4% to 10%. Fourteen of the 28 farms in the sample recorded negative returns to equity and these were equally spread across both regions.

Further discussion of return on assets and return on equity occur in the risk section below and later in the regional chapters. Appendix Tables 1 present all the return on assets and return on equity for the individual farms.

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

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. With the example of feed sources, dairy farmers are generally better at dairy farming than they are at grain production. 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 business. The trade-off is that they are exposed to price and supply risks, which historically have been lower.

The trade-off between perceived risk and expected profitability will dictate the level of risk the individual is willing to take. Often in response to greater perceived risk, farmers will opt to expose their business to less risk. In good times this will result in lower returns, in bad times it will lessen the losses.

Equity levels across the farms remain similar to last year at 77%.

The cost structure ratio provides variable costs as a proportion of total costs. A lower ratio implies that overhead costs comprised a greater proportion of total costs which in turn indicates less flexibility in the business. Table 3 shows that across the state for every $1.00 spent, $0.57 is used to cover variable costs. One minus this ratio gives the proportion of total costs that are overhead costs.

The debt services ratio shows interest and lease costs, as a proportion of gross income. The ratio of 9% this year is slightly higher than the 8% last year, and indicates that on average farms repaid $0.09 of every dollar of gross income to their creditors.

The benefit of taking some risks and borrowing money can be seen when farm incomes yield a higher return on equity than on their return on assets. This year there was only 1 farm where return on equity was greater than return on assets; last year there were 4 farms who were able to do so. Debt levels have increased from last year, with average debt per cow rising from $3,373 in 2011/12 to $3,842 / cow in 2012/13.

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

Table 3: Risk indicators—statewide

	Statewide	North	South
Cost structure (proportion of total costs that are variable costs)	57%	55%	58%
Debt services ratio (percentage of income as finance costs)	9%	8%	10%
Debt per cow	$3,842	$2,837	$4,848
Equity percentage (ownership of total assets managed)	77%	84%	70%
Percentage of feed imported (as a % of total ME)	43%	41%	45%

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

Physical measures

Feed consumption

Figure 9 presents the contribution of different feed sources to the total metabolisable energy (ME) consumed on the farm. This includes feed consumed by dry cows and young stock.

Grazed pasture is the major component of the cow's diet in all regions however the dependence on supplements can also be seen. In both the North and South grazed pasture made up 50% of the diet. Conserved feed accounts for around 15% of the diet, with more silage fed in the North and more hay fed in the South. Both regions are dependent on concentrates with average proportion of ME sourced from concentrates at around 35% of the diet.

Appendix Tables 3 give further information on purchased feed.

Figure 9: Sources of whole farm metabolisable energy

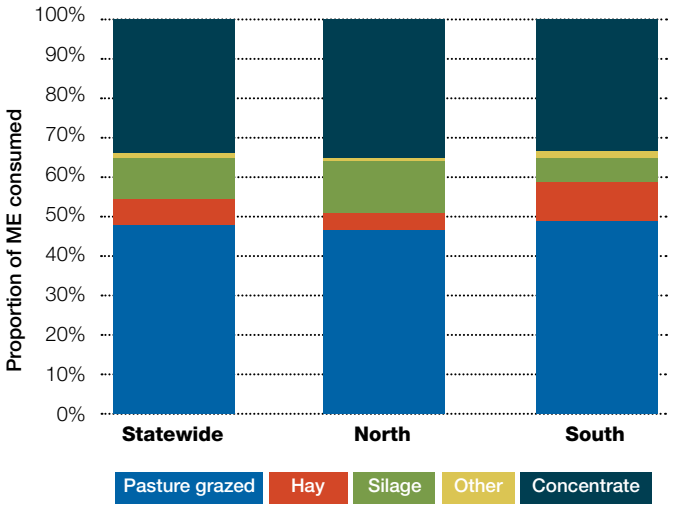


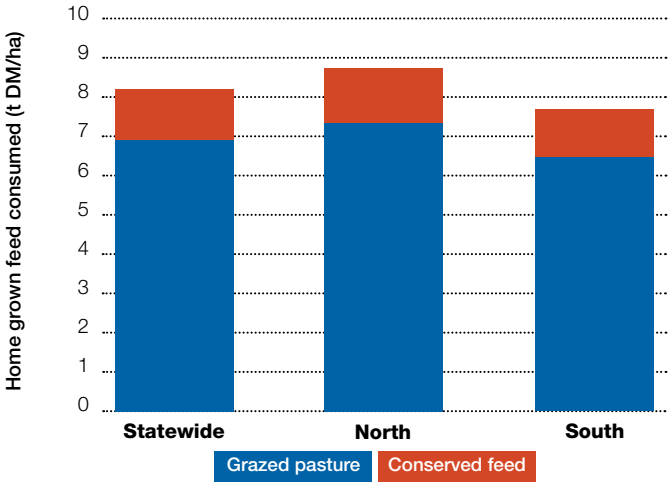
Figure 10 shows the average estimated home grown feed consumed per hectare. Both Figures 9 and 10 were estimated using the Victorian DEPI's Pasture Consumption calculator. It involves first a calculation of the total energy required on the farm, which is a factor of stock numbers held on the farm, the stock weights, distance the stock walks to the dairy on average and also milk production. From the total energy requirements for the farm over the year, the energy imported to the farm as feed is subtracted. This leaves the estimate for total energy produced on farm, which is then divided into grazed and conserved feed depending on the amount of fodder production recorded.

The amount of home grown feed consumed per milking hectare will be dependent on numerous factors, with water availability, fertiliser application rates and grazing management being central. The average estimates were, as grazed feed and conserved feed, 7.40t/ha & 1.4 t/ha for the North and 6.5 t/ha & 1.2 t/ha for the South.

Appendix Tables 2 gives estimates of individual tonnes of home grown feed consumed per milking hectare. The graph below 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 grow fodder crops for silage or grain on the non-milking area. These tonnages are calculated as part of the total feed produced on the farm usable area, but may not be captured as home grown feed on the milking area. So some farms may appear as low consumers of pasture, but may also grow and consume large tonnages of fodder over the whole farm.

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

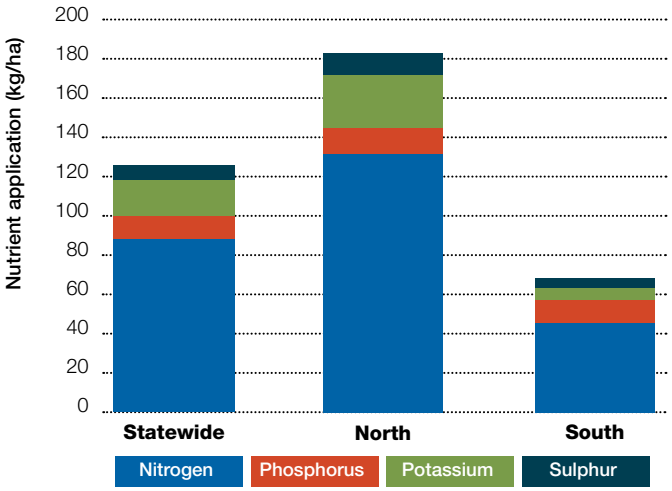


Fertiliser application

Figure 11 shows the amount of the main nutrients applied per hectare as fertiliser over the year. This information was not reported last year.

Figure 10 and 11 do not necessarily show a strong relationship between estimated home grown feed produced and fertiliser applied per hectare. Figure 10 is based on the milking area only, whereas Figure 11 refers to nutrients applied over the whole farm usable area. It should also be noted however 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. Appendix Tables 2 give further information on fertiliser application.

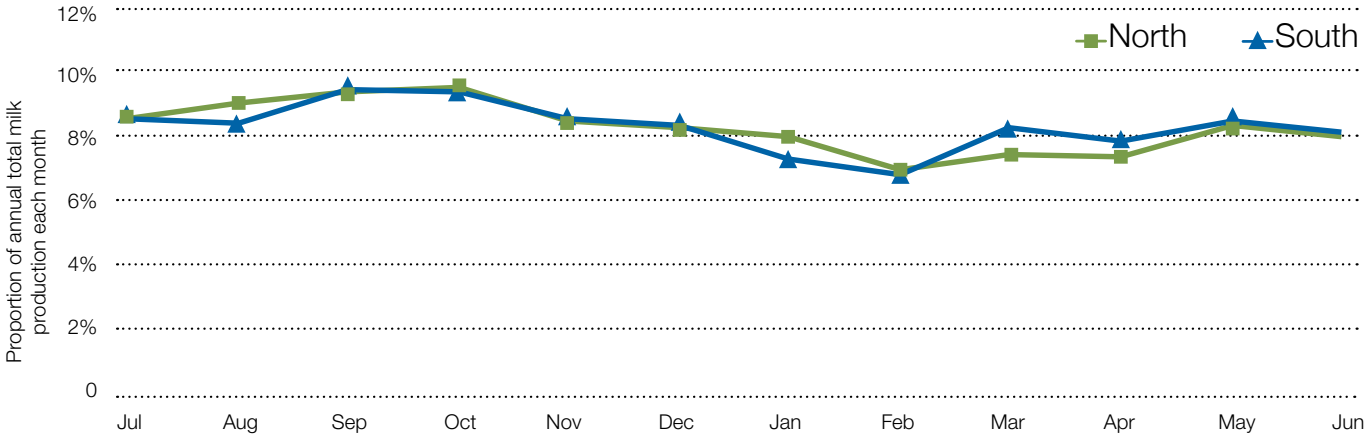
Figure 11. Nutrient application per hectare on usable area



Milk production

Average distribution of monthly milk production across all 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 autumn period than farms in the North.

Figure 12: Monthly distribution of milk production

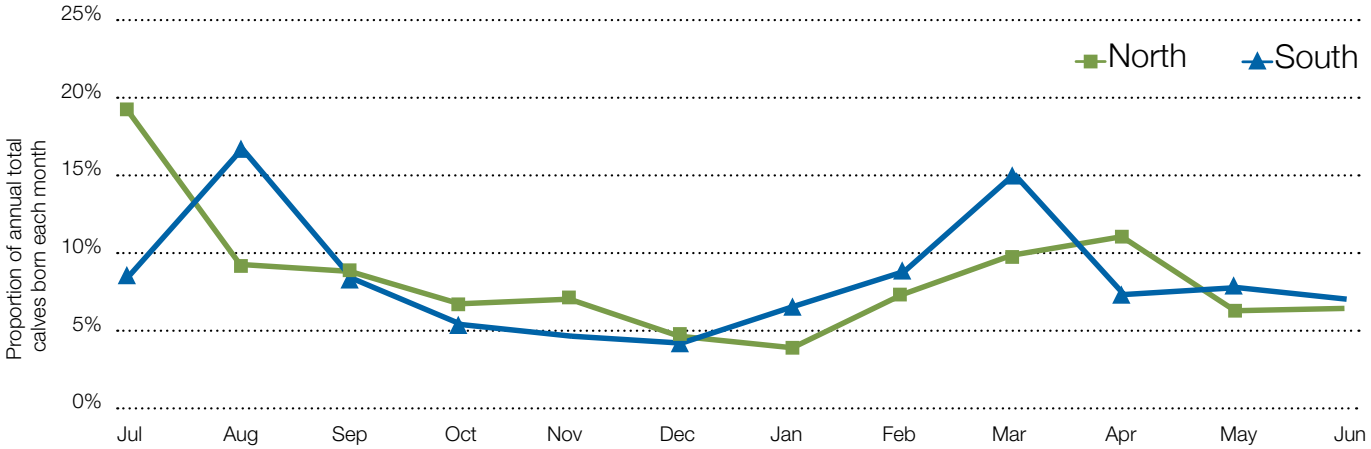


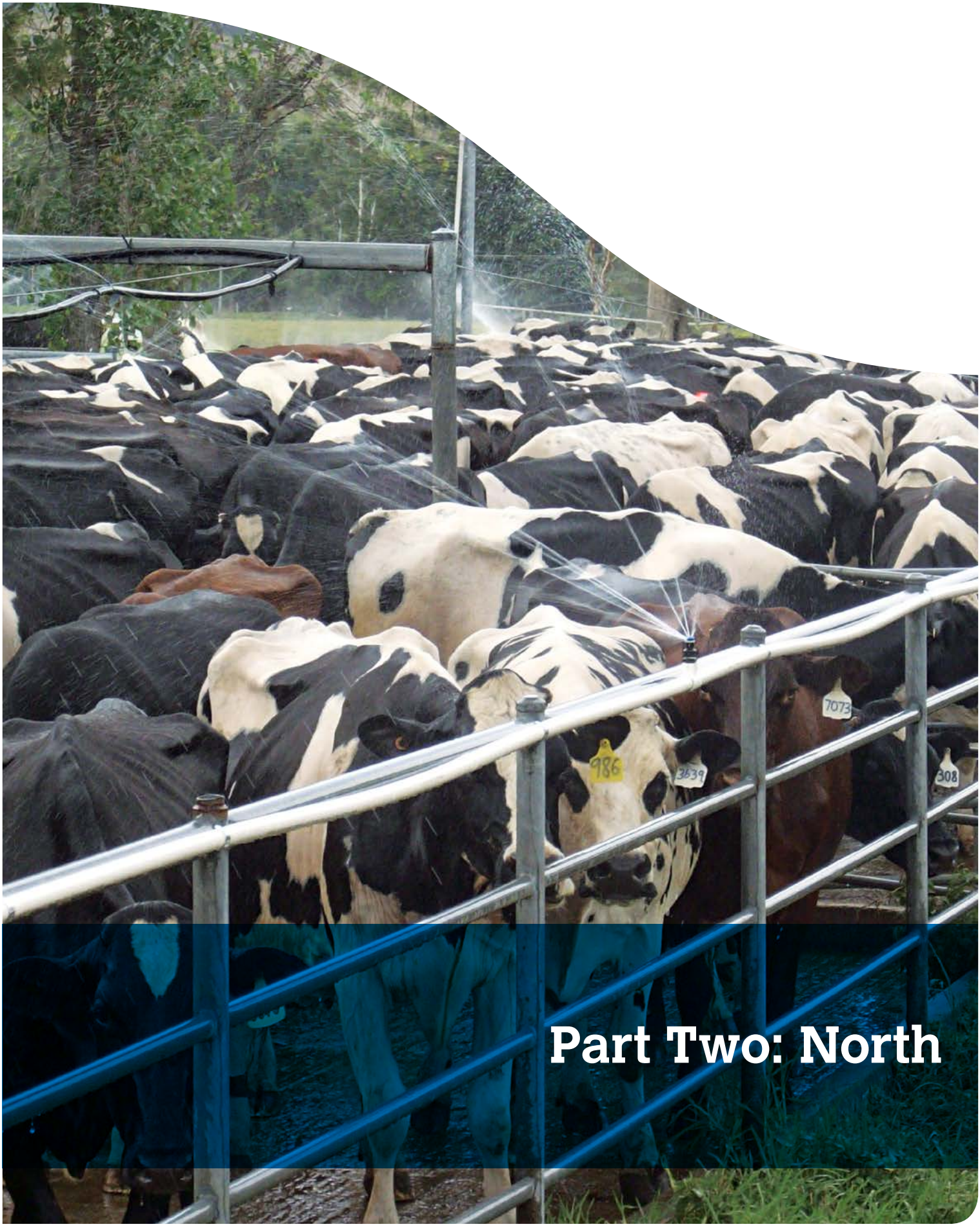
Calving pattern

In order to achieve the milk production curve shown in Figure 12 above, cows need to be calving all year round, and this is evident in the graph of monthly calving pattern in Figure 13. The highest concentration of calves born in both regions is in July and August, which leads to peak milk production in September and October as those cows reach the peak of their lactation. A second peak of calving occurs in the autumn months of March and April, and this is more pronounced in the South than the North.

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

Figure 13. Monthly distribution of calves born





Part Two: North

North overview

Farms NNSW 002 – 011 were included in last year's report, and farms NNSW015 – 018 are new to the North group this year.

2012/13 Seasonal conditions

Seasonal conditions in the North of NSW made running a dairy business difficult for many farmers, although annual rainfall was fairly close to long term averages. The problem was that a particularly dry first half of the year in winter and spring 2012 led to depletion of fodder reserves, and above average rainfall and flooding in the second half of the year damaged pastures and fodder crops.

Following the good returns posted in 2011/12 milk prices declined during 2012/13, with milk surplus to liquid milk requirements for the major processors attracting a very low price.

Both extremes of wet and dry seasons generally drain any fodder reserves and can make it difficult to grow and conserve pastures and crops. Floods in summer / autumn caused damage to fodder crops such as maize, but pastures can usually recover once the water subsides. Those farmers not in flood affected regions had a reasonably good year, and the grain harvest in northern NSW was very good, keeping grain prices at moderate levels.

Figure 14: 2012/13 Annual rainfall and long term average rainfall

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% refers to the top four farms in the North group based on return on assets.

The physical parameters of the top 25% of farms (ranked by return on assets) mostly lie within the middle 50% of the north dataset.

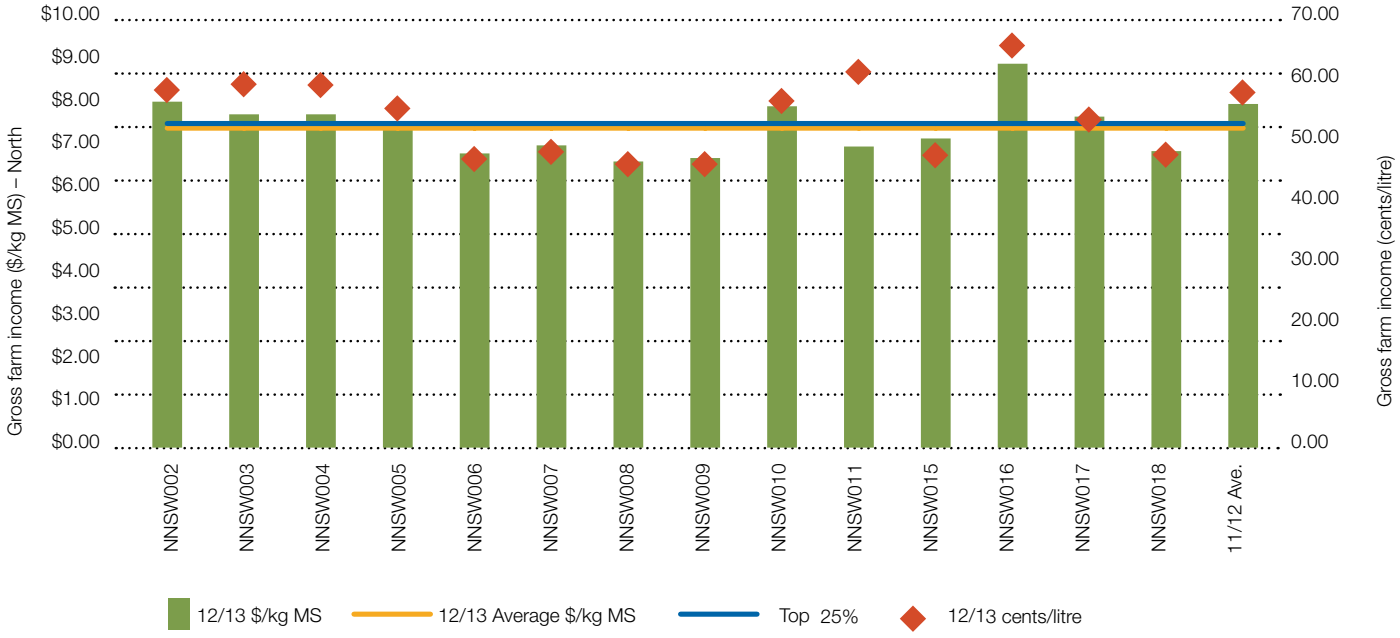
Table 4: Farm physical data—North

Farm physical parameters	North average	Q1 to Q3 range	Top 25% average
Annual rainfall 2012/13	1,174	578 – 1,597	1,490
Water used (irrigation + rainfall) (mm/ha)	1,323	860 – 1,663	1,601
Total usable area (Hectares)	335	184 - 291	279
Milking cows per usable hectares	1.3	0.9 - 1.8	1.5
Milk sold (kg MS /cow)	460	435 - 499	487
Milk sold (kg MS /ha)	615	413 - 808	724
Home grown feed as % of ME consumed	59%	58% - 65%	58%
Labour efficiency (milking cows / FTE)	69	63 - 74	66
Labour efficiency (kg MS / FTE)	32,222	28,289 – 36,412	32,365

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 the top 25% is $7.57 /kg MS (54.1 c/l), which is slightly higher than the overall average for the North of $7.46 /kg MS (53.9 c/l) (Figure 15). The Figure shows that the top performing farms ranked by return on assets did not necessarily have the highest gross income per hectare. This suggests that the top performing farms have other attributes that enable them to achieve a higher EBIT, other than gross farm income.

Figure 15: Gross farm income per kilogram milk solids—North

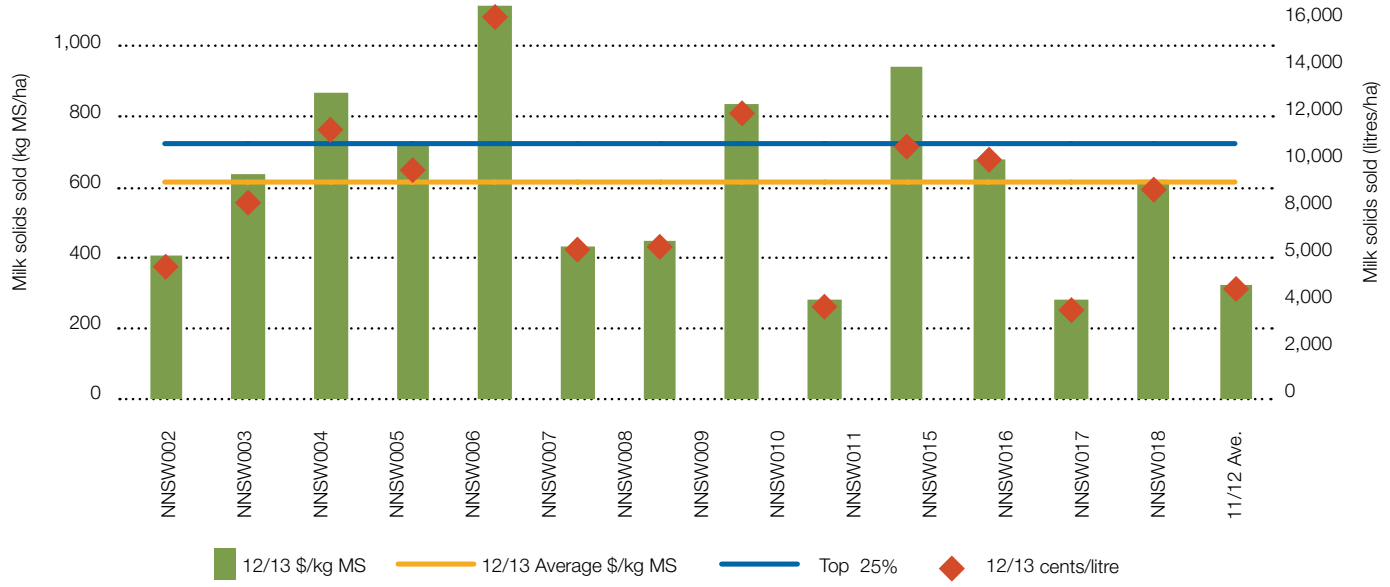


Milk solids production

Average milk production per hectare is almost the same as last year's average, with 615 kg MS/ha produced in 2012/13. This is shown by the red average line balancing on top of the 11/12 Ave bar in Figure 16. The range of this year's dataset was 281 to 1,116 kg MS/ha.

The average of the top 25% group at 724 kg MS/ha is above the average of 615 kg MS/ha, and all farms in the top 25% group are above the average for this measure.

Figure 16: Milk solids sold per hectare —North



Variable costs

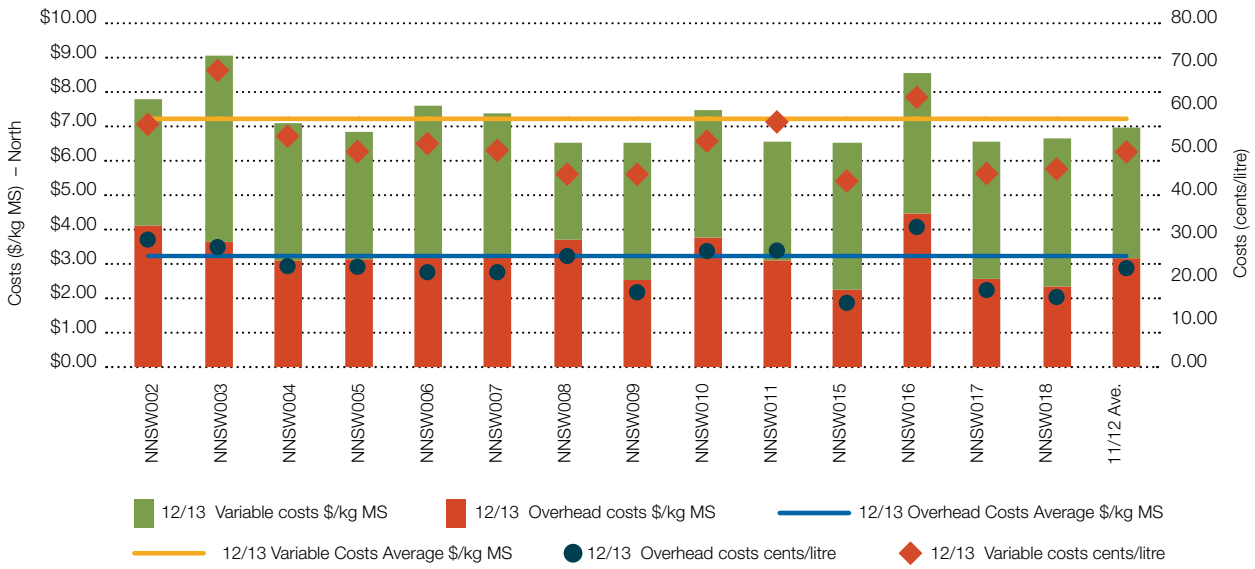
Variable costs include herd, shed and feed costs. Average variable costs in 2012/13 were $4.25 /kg MS (29 c/l) with a wide range from $2.80 - $5.43 (19 c/l to 42 c/l). Last year the average variable costs for the North group were $3.81 /kg MS (27 c/l).

The variation for Northern farms can be seen by the green bars in Figure 17.

Feed costs are clearly the major variable cost accounting for 46% of total costs. Average feed costs this year were $3.34 /kg MS (24 c/l) for the North, which is higher than last year's average of $3.17 (23 c/l). The price of the concentrate fed was $335/t DM on average, with consumption of all purchased feed at 1.8 t DM / cow (range 0.8 – 2.9 t DM/cow).

A breakdown of variable costs for the individual businesses on a $/kg MS basis can be seen in Appendix Table B4.

Figure 17: Whole farm variable and overhead costs per kilogram milk solids—North



Overhead costs

Overhead costs are those that do not vary with the level of production. The DFMP includes cash overheads such as rates and insurance as well as non-cash costs such as imputed owner operator and family labour and depreciation of plant and equipment. Figure 16 illustrates the range spent on overhead costs, which was from $2.27 to $4.48 /kg MS (15 c/l to 33 c/l) for farms in the North in 2012/13. Overhead costs were $3.25 / kg MS (23.5 c/l) on average in 2012/13. This is very similar to last year, when average overhead costs were $3.20 /kg MS (23.1 c/l).

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 sharefarmers 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 gives an indication of the average cost of producing a kilogram of milk solids. It is calculated as variable plus overhead costs and accounting for changes in fodder inventory and livestock trading losses or gains. Considering the changes in inventory is important to establish the true costs to the business. The changes in fodder inventory counts 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 where there is a net livestock depreciation or reduced stock numbers.

Table 5 shows that the average cost of production was $7.25 /kg MS (53 c/l) and the top 25% of farms were 6% lower at $6.84 /kg MS (50 c/l).

Figure 17 and Table 5 present both variable and overhead costs to give the total cost of production per kilogram of milk solids sold. Cost of production expressed as per kilogram of milk solids sold is a useful risk ratio. The comparison of cost of production with gross income gives the average operating margin, i.e. EBIT/kg MS.

Table 5: 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	$0.00	0.0	$0.00 - $0.00	$0.00	0.0
Feed inventory change	$0.01	0.5	-$0.10 - $0.14	$0.07	1.2
Changes in inventory ($ / kg MS)	$0.01	0.5	-$0.10 - $0.14	$0.07	1.2
Variable costs					
Herd costs	$0.33	2.3	$0.28 - $0.36	$0.27	2.3
Shed costs	$0.32	1.7	$0.26 - $0.37	$0.29	1.7
Purchased feed and agistment	$1.79	6.4	$1.46 - $2.10	$2.03	5.7
Home grown feed cost	$1.55	15.2	$1.35 - $1.77	$1.40	17.0
Total variable costs	**$4.00**	**25.6**	**$3.71 - $4.24**	**$3.99**	**26.8**
Overhead costs					
Rates	$0.06	0.3	$0.04 - $0.06	$0.05	0.3
Registration and insurance	$0.05	0.4	$0.02 - $0.06	$0.03	0.5
Farm insurance	$0.09	0.5	$0.03 - $0.15	$0.07	0.6
Repairs and maintenance	$0.55	2.8	$0.31 - $0.66	$0.59	1.3
Bank charges	$0.03	0.1	$0.01 - $0.03	$0.04	0.1
Other overheads	$0.19	1.0	$0.10 - $0.20	$0.20	0.8
Employed labour cost	$1.02	5.1	$0.54 - $1.29	$0.97	4.8
Total cash overheads	**$1.99**	**10.4**	**$1.65 - $2.27**	**$1.94**	**8.4**
Depreciation	$0.85	2.8	$0.34 - $1.16	$0.59	2.9
Imputed owner/operator and family labour	$0.41	5.3	$0.28 - $0.51	$0.25	4.6
Total overhead costs	**$3.25**	**18.5**	**$2.73 - $3.72**	**$2.79**	**15.9**
Total cost of production	**$7.25**	**44.6**	**$6.89 - $7.54**	**$6.84**	**43.9**

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 (EBIT) per kilogram of milk solids.

Figure 18 shows that the break-even price required varied from $5.61 per kg MS (39 c/l) to $8.41 per kg MS (66 c/l), with an average of $6.61 per kg MS (48 c/l).

The milk price received varied from $6.46 /kg MS (47 c/l) to $7.32 /kg MS (54 c/l), with an average of $6.83 / kg MS (49 c/l). The results highlight that in 2012/13 all North farms bar three recorded positive EBIT.

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

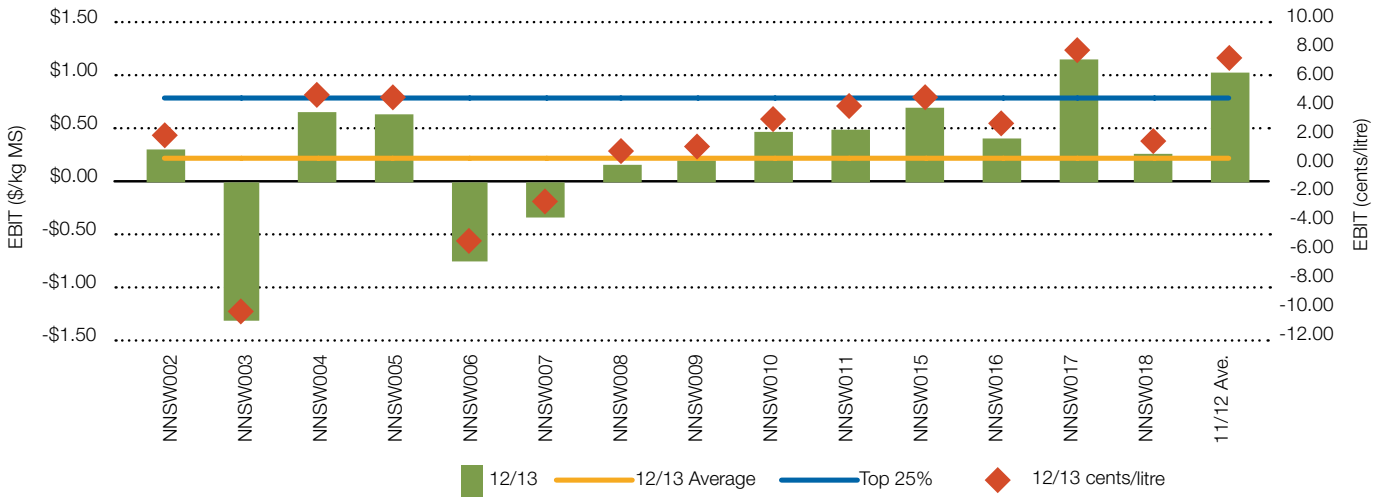
Earnings before interest and tax

Earnings before interest and tax are gross income less variable and overhead costs.

Figure 19 shows the decrease in profits between years with the average falling from $1.03/kg MS (7.5 c/l) in 2011/12 to $0.22/kg MS (1.6 c/l) in 2012/13.

Three of the 14 farms recorded negative EBIT. The top 25% recorded over three times the profit of the average at $0.79 /kg MS (5.6 c/l).

Figure 19: Whole farm earnings before interest & tax per kilogram milk solids—North



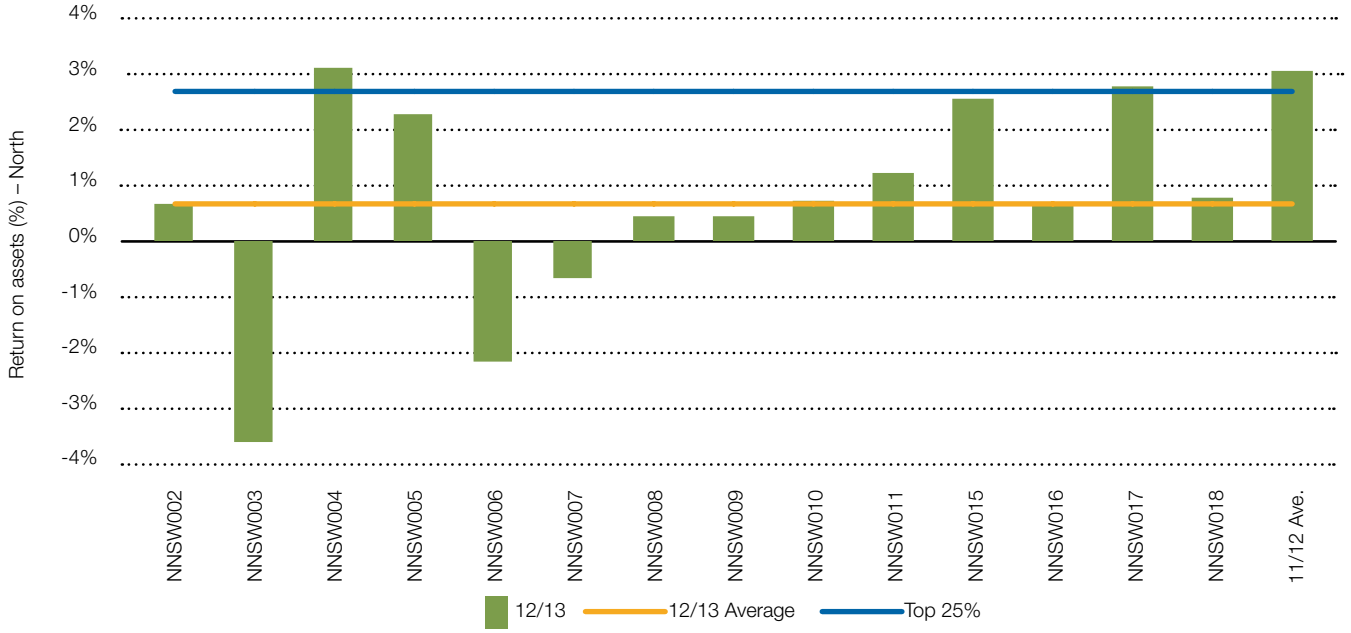
Return on assets and equity

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

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

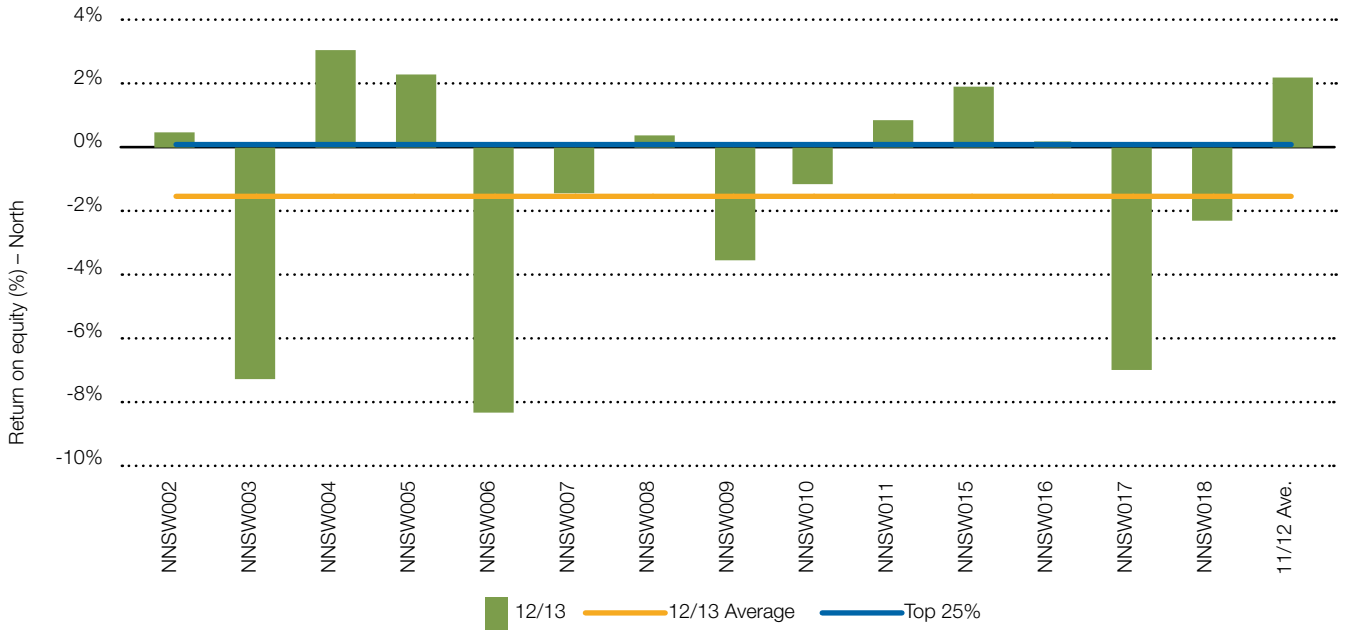
Figure 20 shows the distribution of return on assets in 2012/13. The group achieved a low average return on assets of 0.7%. The top 25% achieved only 3.0% return this year compared to 6.0% last year. The range for the group was -3.6% to 3.1%.

Figure 20: Return on assets—North



The distribution of return on equity in 2012/13 is shown in Figure 21, with 7 of the 14 farms recording a negative return. This year the range of return on equity for North farms was -8.4% to 3.0%, with an average of -1.6%. Even the top performers only averaged a zero return on their equity.

Figure 21: Return on equity—North



Feed consumption

Feed data was collected on a whole farm basis rather than determining which feeds went to each class of stock, as this would have made the data collection process too difficult on many farms.

The relative contribution of each feed type to the ME consumption on the farm in shown in Figure 22. The broad range of different source of metabolisable energy used, both from home grown and purchased feed, on individual farms is evident. Pasture grazed directly accounted for more than 50% of the ME consumed on 11 of the 14 farms. All farms bar one source at least 30% of the metabolisable energy from concentrates

On average pasture constituted 50% of the diet, with concentrates 35% and silage and hay 15% of the diet.

Figure 22: Sources of whole farm metabolisable energy—North

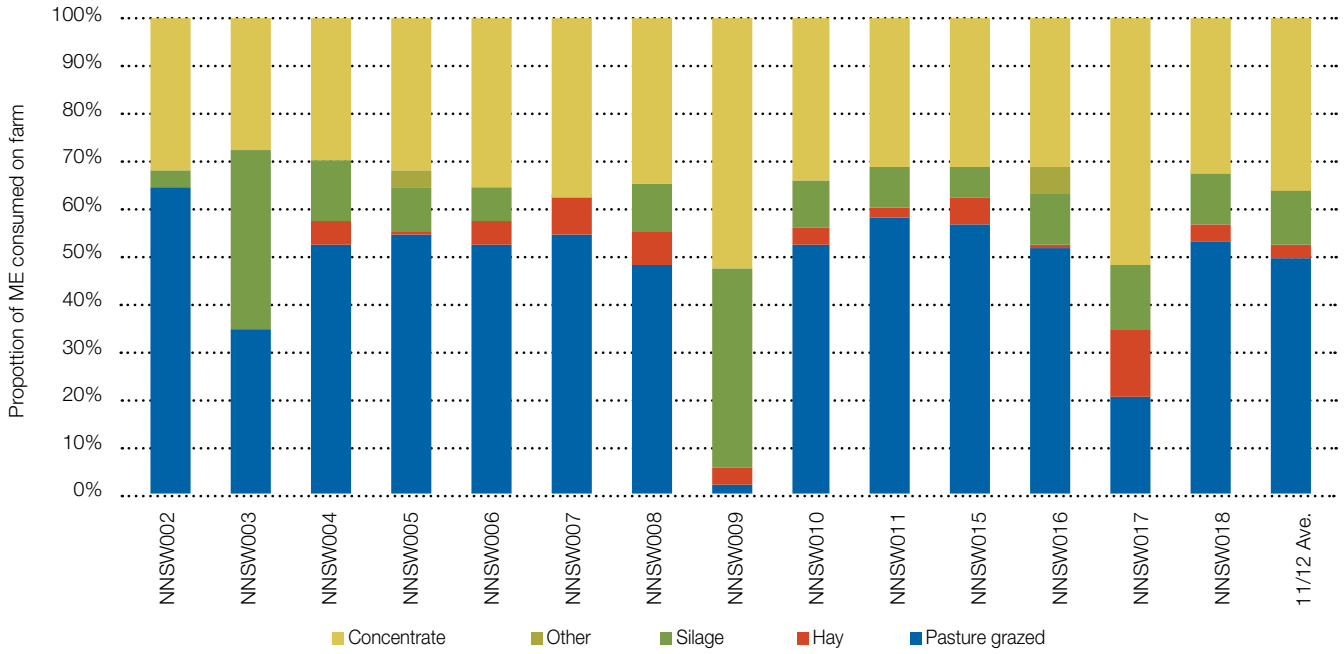
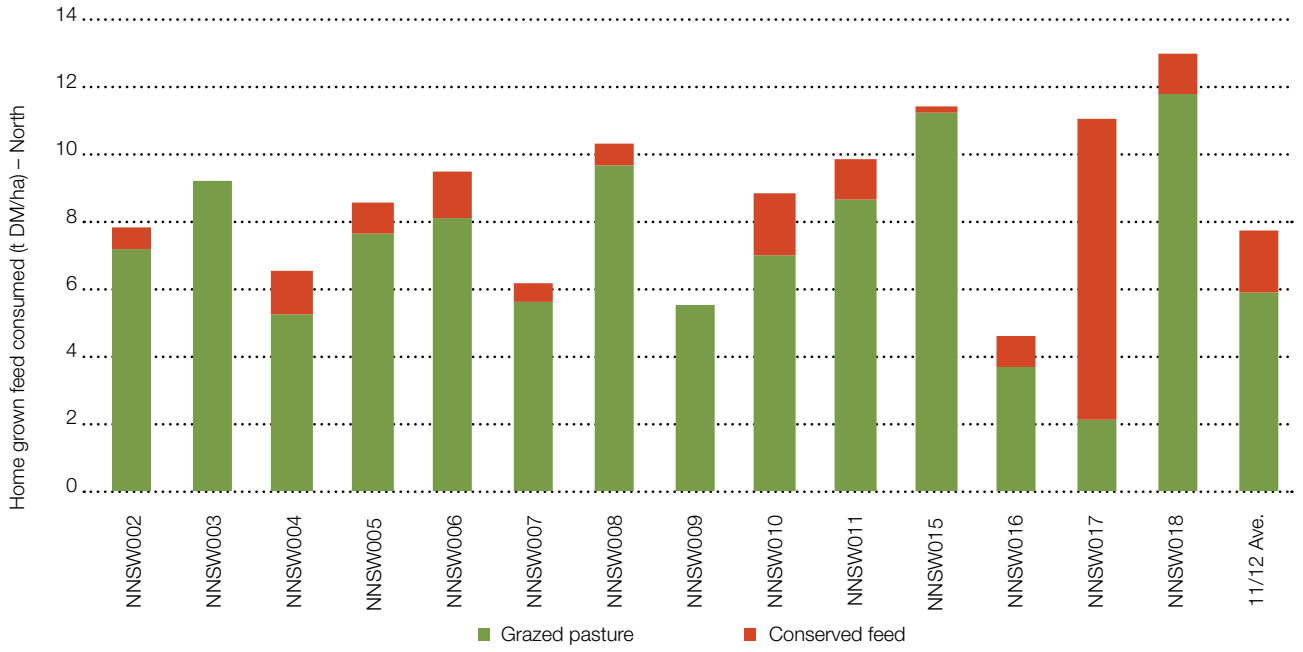


Figure 23 shows the estimated home grown feed consumed per milking hectare for farms in the North. This graph only shows pasture and fodder consumed on the milking area. It does not include fodder grown and conserved on the non-milking area. A number of farms grow fodder crops for silage that are additional sources of home grown feed that are not reflected in Figure 23.

Total pasture harvest for the North was 7.4 t DM/ha on average, which was very similar to last year. The amount of home grown feed conserved was 1.4 t DM/ha on average.

Grazed pasture consumption is estimated by using a back calculation method. 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, energy content of fodder and concentrate, energy content of pasture, wastage of feed and associative effects of feeds. Comparing pasture consumption estimated using the back calculation method between farms can lead to incorrect conclusions due to errors in each farm's estimate and it is best to compare pasture consumption on the same farm over time using the same method of estimation. More details on how pasture consumption was calculated can be found in Part One – Statewide or in Appendix E.

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

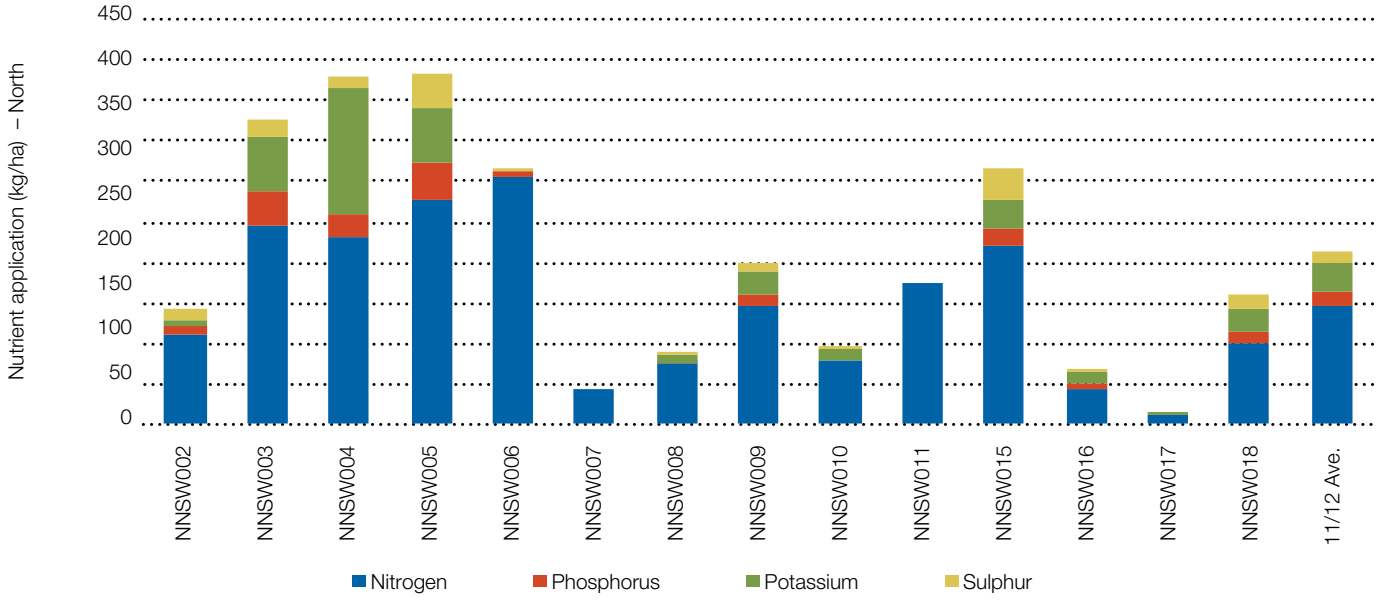


Fertiliser application

The relationship between fertiliser application per hectare and home grown feed consumed per hectare during 2012/13 is shown in Figures 23 and 24. There are no discernible trends between those farms that applied the greatest amount of fertiliser and those that had the greatest amount of home grown feed.

This could be due to a range of factors including soil type, irrigation scheduling, grazing management, and timing of rain events and damage from flooding or insects. Figure 23 is based on the milking area only, whereas Figure 24 refers to nutrients applied over the whole farm usable area.

Figure 24. Nutrient application per hectare—North



Part Three: South

South overview

Please refer to page 3 for notes on the presentation of data. Farms SNSW 002 to 014 were in the project last year, farms 015 and 016 are new this year.

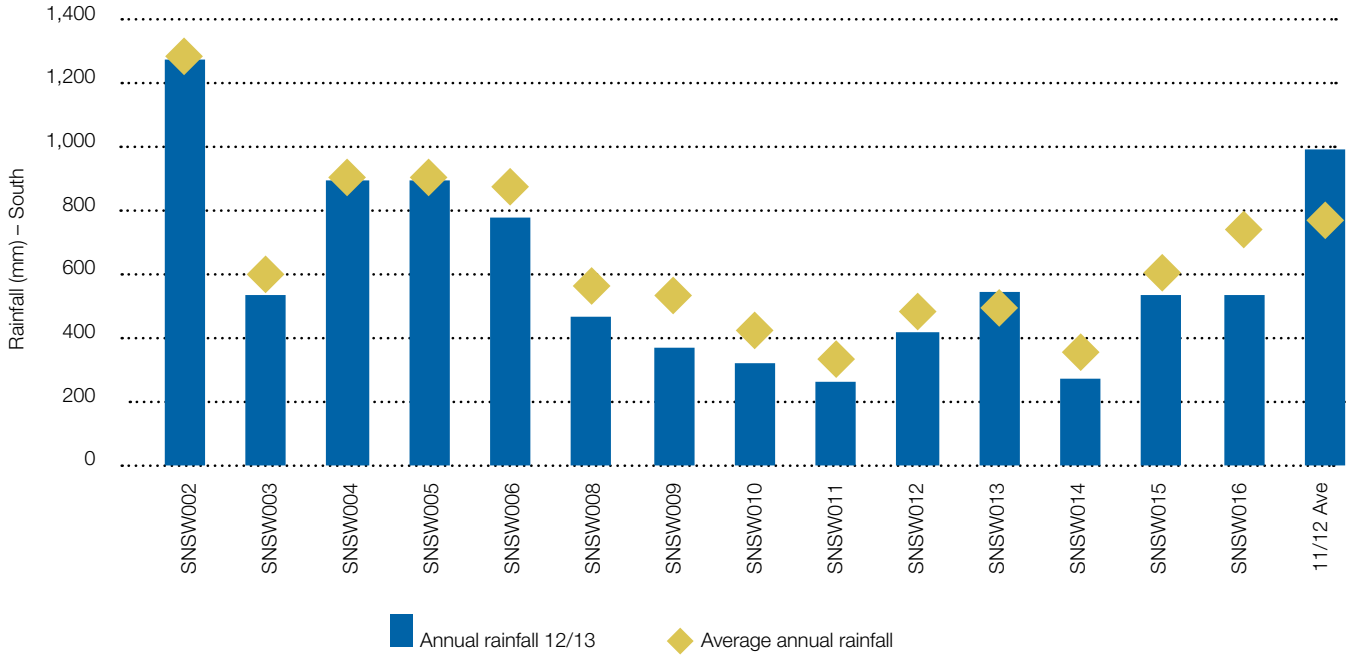
2012/13 Seasonal conditions

Seasonal conditions varied in the South from very dry to very wet during this year, depending on location. This region covers the coastal and highlands areas south from Sydney, as well as the inland river systems and the southern Riverina.

On the South coast, floods were experienced in some dairying regions during June of 2013, causing significant damage and disruption of normal farming practices. Inland regions experienced damage to soils and pastures from the autumn of 2012 and took some time to repair, affecting pasture establishment and quality into the 2012/13 year. Most farms received below average rainfall across the year, with farm fodder reserves generally being depleted.

These challenging seasonal conditions were combined with reduced milk prices and rising input costs, and made for a difficult year for farmers in the South.

Figure 25: 2012/13 Annual rainfall and long term average rainfall—South



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 top 25% refers to the top four farms in the South group based on return on assets.

The physical characteristics of the top 25% of farms (ranked by return on assets) generally lie within the middle 50% of the South group. However the top performers recorded higher results than the average for milking cows per hectare, milk sold /ha and labour efficiency in terms of kilograms of milk solids sold per labour unit.

Table 6: Farm physical data—South

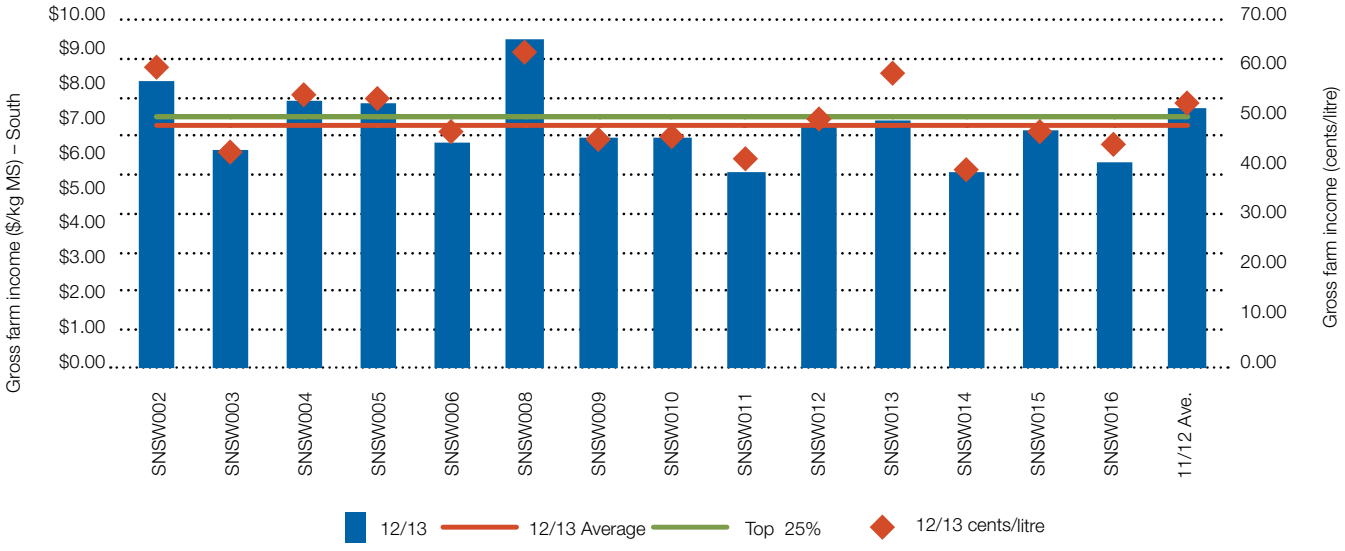
Farm physical parameters	South average	Q1 to Q3 range	Top 25% average
Annual rainfall 12/13	579	382 - 722	454
Water used (irrigation + rainfall) (mm/ha)	805	571 - 959	796
Total usable area (hectares)	323	228 - 367	273
Milking cows per usable hectares	1.1	0.9 - 1.2	1.4
Milk sold (kg MS /cow)	523	462 - 580	529
Milk sold (kg MS /ha)	601	460 - 586	778
Home grown feed as % of ME consumed	55%	48% - 64%	48%
Labour efficiency (milking cows / FTE)	82	66 - 97	96
Labour efficiency (kg MS / FTE)	42,545	37,272 – 46,402	49,898

Gross farm income

Gross farm income includes all farm income, whether that is income from milk sales, cash income from livestock trading, or income from other sources such as farm owned shares, interest from bank accounts and rebates or grants. Changes in inventories of stock or feed are also accounted for in gross farm income and in 2012/13 meaning this figure was deducted from or added to gross farm income. Gross farm income as per cow or per hectare can be found in Appendix Table C1.

Figure 26 shows that gross farm income in the South averaged $6.94 /kg MS (50 c/l), with a range from $5.65 (40 c/l) to $9.47 /kg MS (63 c/l). The farms in the top 25% recorded gross farm income of $7.26 /kg MS (53 c/l). This suggests that while it has an influence, high gross farm income alone does not translate to being highly profitable and that other attributes of top performers need to be examined when assessing farm performance.

Figure 26: Gross farm income per kilogram milk solids—South



Milk solids production

Average milk production fell 17% to 601 kg MS/ha in 2012/13. This is shown by the red average line below the 11/12 Ave bar in Figure 27. The range in this year's data set was 378 to 1,544 kg MS/ha sold.

While the average of the top 25% group at 778 kg MS/ha is above the average at 601 kg MS/ha, not all farms in the top group are above the average. For example farm SNSW013, 014 and 015. The top 25% average is being skewed by SNSW008 and when this farm is excluded from this group the average is 522 kg MS/ha, suggesting these top performing farms have other attributes that contribute to their strong performance.

Variable costs

The separation of variable and overhead costs per hectare is shown in Figure 28. 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 varied from $2.59 (22 c/l) to $5.36 / kgMS (36 c/l), with the average of $3.57 /kg MS (27 c/l). Last year the average variable costs for the South group were $3.42 /kg MS (24 c/l).

Feed costs are clearly the major variable cost accounting for 49% of total costs. Average feed costs this year were $3.01 /kg MS (22 c/l) for the South. The price of the concentrate fed was $311/t DM on average, with consumption of all purchased feed at 2.7 tDM / cow (range 1.7 – 4.5 tDM/cow).

A breakdown of variable costs for the individual businesses on a $/kg MS basis can be seen in Appendix Table C4.

Figure 27: Milk solids sold per hectare—South

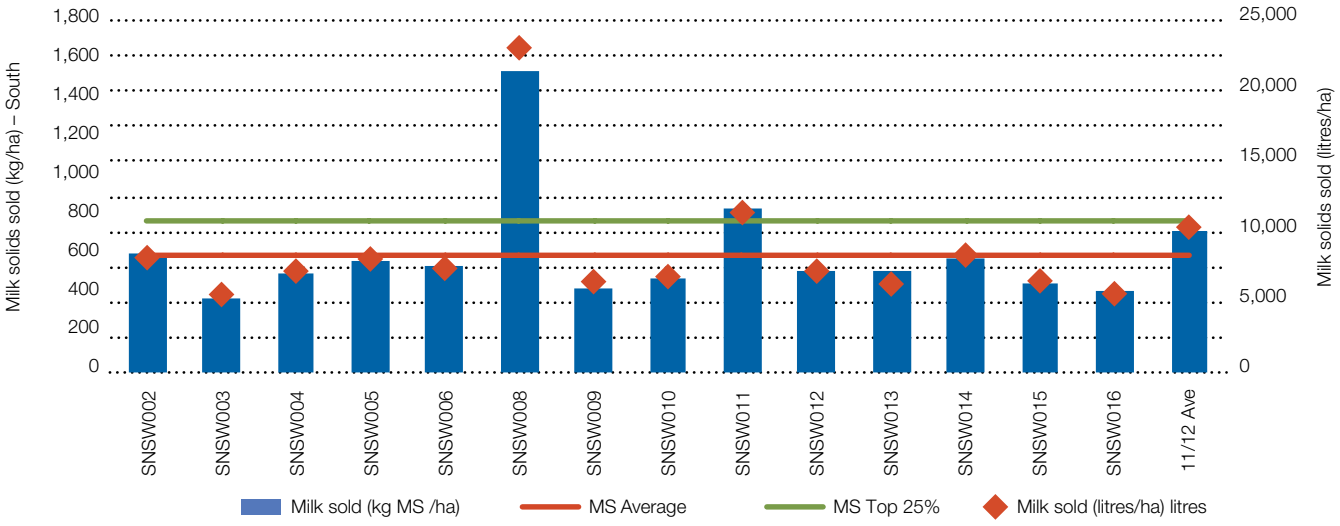
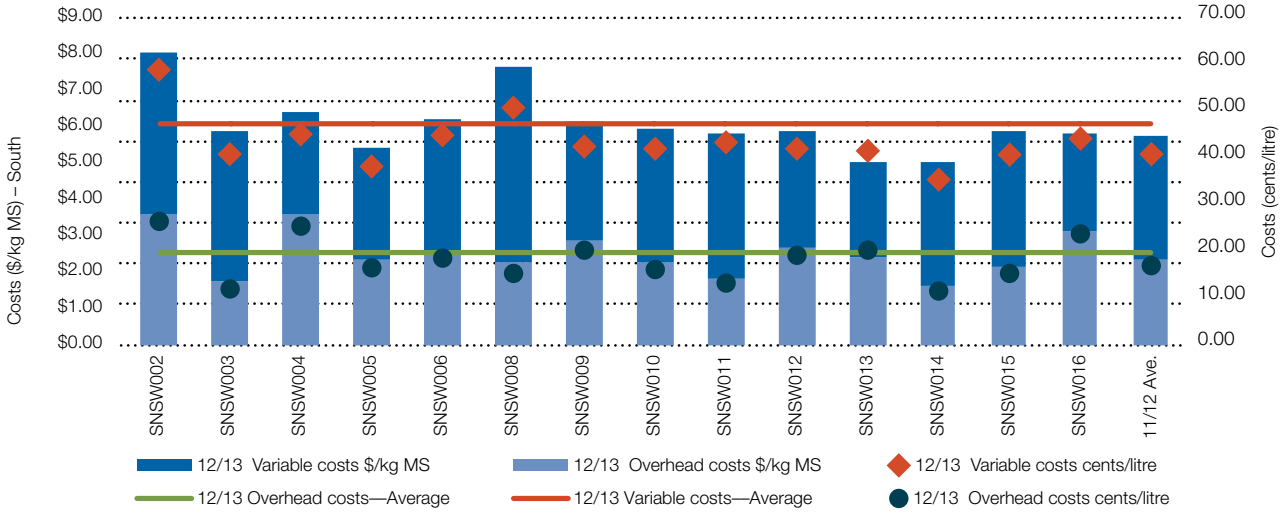


Figure 28: Whole farm variable and overhead costs per kilogram milk solids—South



Overhead costs

Overhead costs are those that do not vary with the level of production. The calculation of overhead costs in the DFMP consists of cash and non-cash costs to the dairy business. Examples of cash overheads include rates, insurance and employed labour, and non-cash overheads include depreciation and imputed owner/operator and family labour.

Figure 28 illustrates the range spent on overhead costs, which was from $1.67 to $3.66 /kg MS (12 c/l to 27 c/l) for farms in the South in 2012/13. Overhead costs were $2.56 /kg MS (19 c/l) on average in 2012/13.

The major overhead cost to the average South farm was the cost of labour in the business, which includes both employed and imputed labour. Labour costs account for 58% of total overhead costs. Imputed labour for farm owners, family members and sharefarmers is valued at $25/hr for all hours worked. Repairs and maintenance and depreciation were the other two major overhead cost categories. The percentage breakdown of the individual totals expressed as percentages is presented in Appendix Table C6.

Cost of production

Cost of production gives an indication of the average cost of producing a kilogram of milk solids. It is calculated as variable plus overhead costs and accounting for changes in fodder inventory and livestock trading losses or gains. Considering the changes in inventory is important to establish the true costs to the business. The changes in fodder inventory counts 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 where there is a net livestock depreciation or reduced stock numbers. Where negative changes in inventory occur, this is counted as a cost to the business and added to variable and overhead costs to give a total cost of production.

Table 7 shows that the average cost of production was $6.10 /kg MS (44 c/l) and the top 25% of farms were 6% lower at $5.76 /kg MS (42 c/l).

Figure 28 and Table 7 present both variable and overhead costs to give total cost of production per kilogram of milk solids sold. Cost of production is a useful risk indicator as it calculates the costs incurred to produce a kilogram of milk solids sold. The comparison of cost of production to gross income returns the percentage of gross income retained as earnings (EBIT %).

Table 7: Cost of production—South

Farm costs	**South average**		**Q1 to Q3 range**	**Top 25% average**	
	$/kg MS	**c/l**	**$/kg MS**	**c/l**	**$/kg MS**
Livestock trading loss	$0.00	0.0	$0.00 - $0.00	$0.00	0.0
Feed inventory change	-$0.07	0.5	$-0.18 - $0.08	-$0.18	1.2
Changes in inventory	-$0.07	0.5	$-0.18 - $0.08	-$0.18	1.2
Variable costs					
Herd costs	$0.32	2.3	$0.29 - $0.38	$0.33	2.3
Shed costs	$0.24	1.7	$0.18 - $0.29	$0.24	1.7
Purchased feed and agistment	$2.13	6.4	$1.77 - $2.14	$2.40	5.7
Home grown feed cost	$0.88	15.2	$0.58 - $1.17	$0.79	17.0
Total variable costs	**$3.57**	**25.6**	**$3.12 - $3.94**	**$3.76**	**26.8**
Overhead costs					
Rates	$0.04	0.3	$0.02 - $0.07	$0.04	0.3
Registration and insurance	$0.06	0.4	$0.02 - $0.07	$0.07	0.5
Farm insurance	$0.07	0.5	$0.06 - $0.08	$0.08	0.6
Repairs and maintenance	$0.39	2.8	$0.25 - $0.54	$0.19	1.3
Bank charges	$0.01	0.1	$0.00 - $0.01	$0.02	0.1
Other overheads	$0.14	1.0	$0.08 - $0.17	$0.11	0.8
Employed labour cost	$0.72	5.1	$0.48 - $0.91	$0.67	4.8
Total cash overheads	**$1.44**	**10.4**	**$1.16 - $1.70**	**$1.17**	**8.4**
Depreciation	$0.39	2.8	$0.34 - $0.44	$0.39	2.9
Imputed owner/operator and family labour	$0.73	5.3	$0.46 - $0.96	$0.62	4.6
Total overhead costs	**$2.56**	**18.5**	**$2.25 - $2.86**	**$2.18**	**15.9**
Total cost of production	**$6.06**	**44.6**	**$5.57 - $6.10**	**$5.76**	**43.9**

Break-even price required

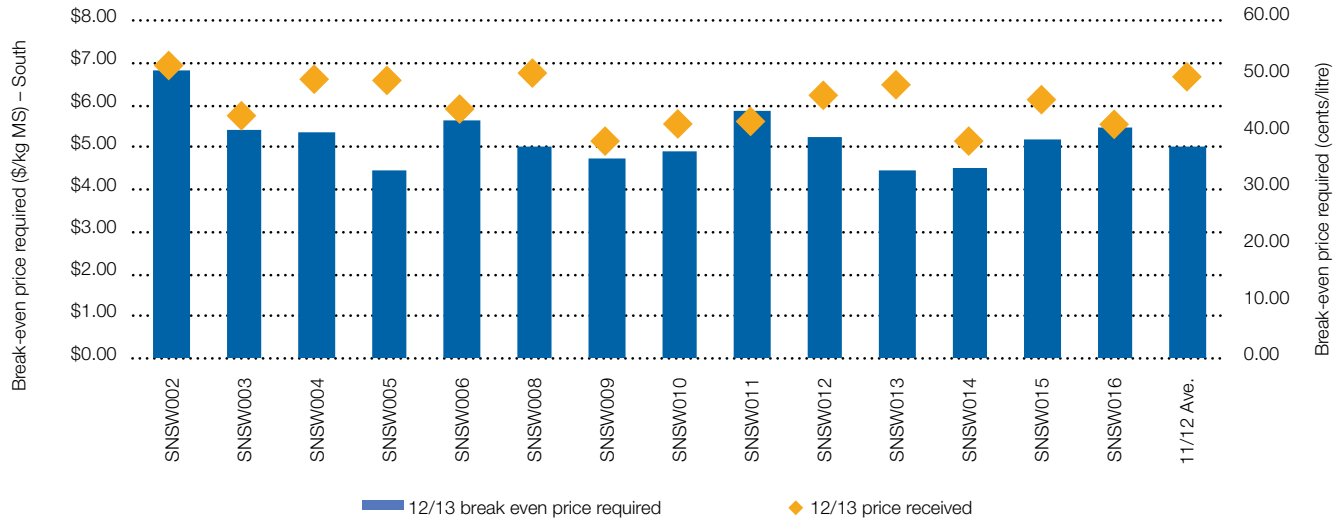
The break-even price required per kilogram of milk solids sold is calculated as the cost of production less any income from other sources, including livestock trading profit or change in feed inventory. This makes it an even more relevant risk indicator in dairying than cost of production as it can be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

Figure 29 shows that the break-even price required ranged from $4.43 /kg MS (37 c/l) to $6.83 /kg MS (50 c/l) in the South.

The average milk price received in 2012/13 was $6.03 /kg MS (43.5 c/l), which is 10% lower than last year's average milk price received of $6.65 /kg MS (47.2 c/l). The range of milk prices received in 2012/13 was $5.12 to $6.94 /kg MS (36 c/l to 51 c/l) across the South farms.

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. Only one of the 14 farms received a lower milk price than the break-even price required to make a profit.

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



Earnings before interest and tax

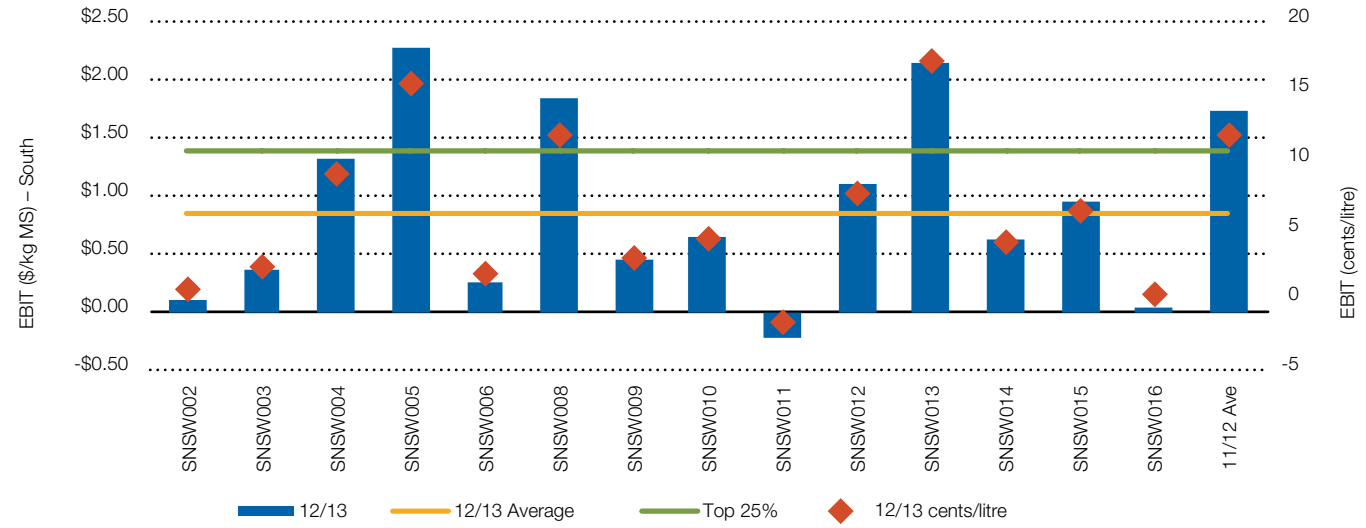
Earnings before interest and tax (EBIT) is calculated by subtracting variable and overhead costs, including imputed labour costs from gross income. It is the return from all the capital invested in the business.

Figure 30 shows the range in EBIT and on average, EBIT per kilogram of milk solids in the South was $0.81 /kg MS (6 c/l), which is 50% lower than last year's average of $1.65 /kg MS (12 c/l).

The strength of the top performers is highlighted by recording an average EBIT of $1.33 /kg MS (10 c/l), 64% higher than the average. All farms in the South except one received a positive EBIT.

The reduced gross income due to lower milk prices, plus higher costs of production especially in purchased fodder and grain costs, has contributed to the decline in farm returns.

Figure 30: Whole farm earnings before interest and tax per kilogram milk solids—South



Return on assets and equity

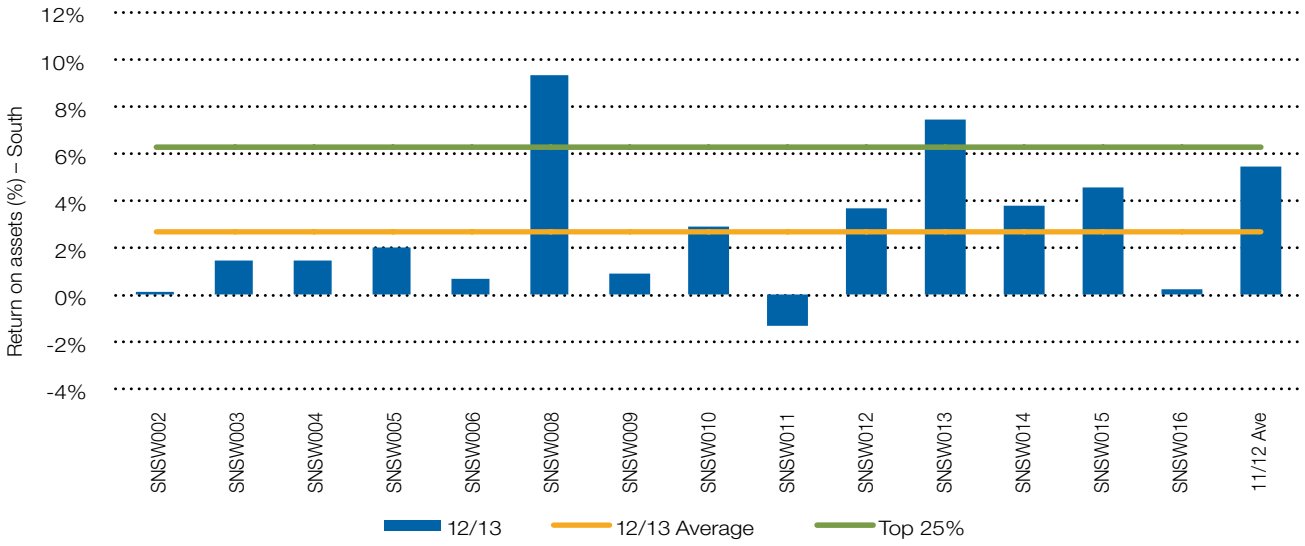
Return on assets is the earnings before interest and tax expressed as a percentage of total assets involved in the farm business. It is an indicator of the overall earning power of total assets, irrespective of capital structure. In 2012/13 the ranking of the top 25% of farms is based on return on asset.

Return on equity is the net farm income; that is EBIT minus interest and lease costs, expressed as a percentage of owner equity. It is a measure of the owner's rate of return on investment. 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 -1.3% to 9.4% (Figure 31), with an average of 2.7%. The top 25% achieved 6.3%. This is significantly lower than last year, when the average ROA was 5.5% and the top 25% achieved 9.2% ROA.

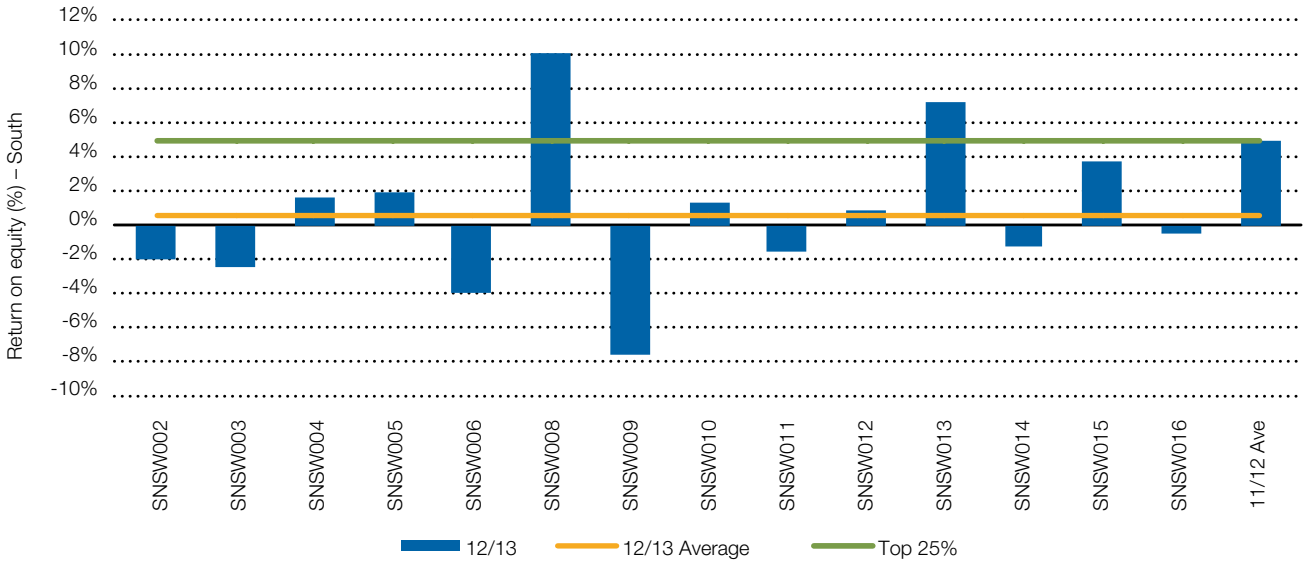
It is also worth noting that there is a huge variation in market values for land in the South region, where farm location includes the southern highlands close to Sydney as well as the southern Riverina region where land values have been separated from water entitlement.

Figure 31: Return on assets—South



This year return on equity had a wide range from -7.6% up to 10.0% as shown in Figure 32. The average was 0.5%, with the top 25 % of farms averaging 4.9% return on equity. Seven of the 14 farms in the sample recorded a negative return on equity.

Figure 32: Return on equity—South



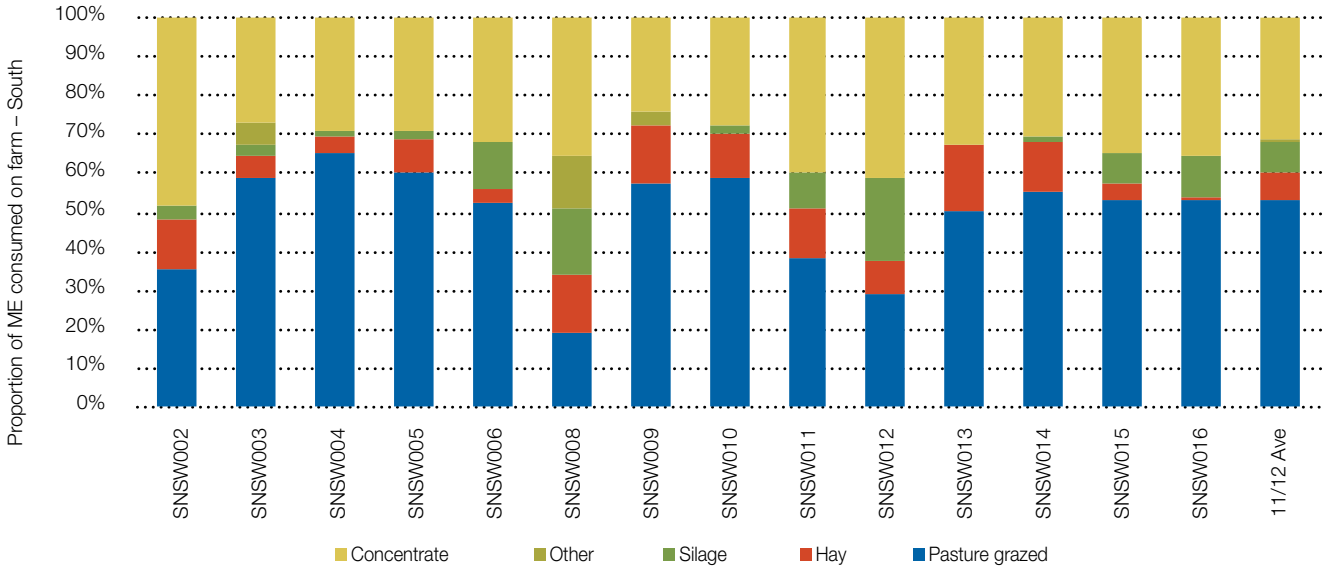
Feed consumption

Feed data was collected on a whole farm basis rather than determining which feeds went to each class of stock as this would have made the data collection process too difficult on many farms.

Figure 33 shows the relative contribution of each feed type to the ME consumption on the farm. Pasture consumption is calculated as the gap between the calculated total energy required on farm for all stock classes and the energy provided from concentrates, silage, hay and other sources.

The contribution of grazed pasture as a proportion of ME consumed on farm was 49% in 2012/13. Concentrate supplements contributed 33% of total ME fed while silage made up 7% and hay 9% of total ME consumed on farm on average.

Figure 33: Sources of whole farm metabolisable energy—South



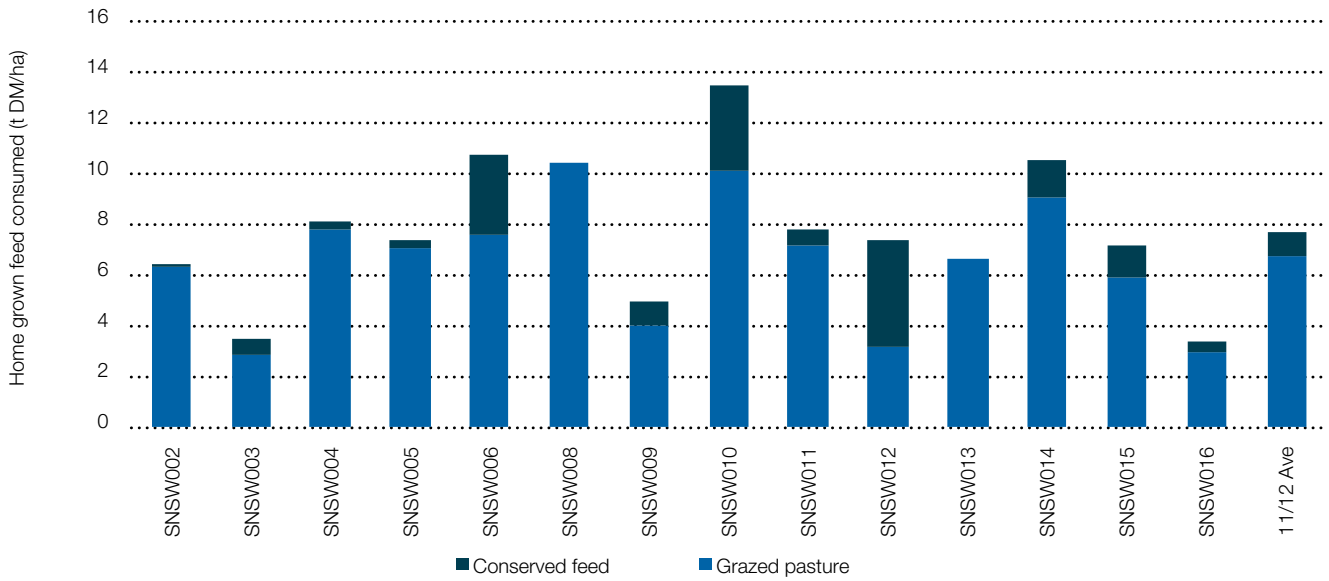
In 2012/13 home grown feed consumption has been measured per milking hectare as opposed to per usable hectare. Pasture consumption for farms in the South is shown in Figure 34. The amount of pasture grazed this year ranged from 2.9 tonnes of dry matter per hectare up to 10 t DM/ha, with an average of 6.5 t DM/ha. Conserved fodder ranged from 0 t DM/ha to 4.2 t DM/ha, with an average of 1.2 t DM/ha. This resulted in an average total pasture harvest from the milking area of 7.7 t DM/ha, which was very similar to last year.

Figure 23 shows the estimated home grown feed consumed per milking hectare for farms in the South. 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 grow fodder crops for silage or hay that are additional sources of home grown feed that are not reflected in Figure 23.

It should be noted that there can be a number of potential sources of error in the method used to calculate home pasture consumption including incorrect estimation of liveweight, amounts of fodder and concentrates fed, energy content of fodder and concentrate, energy content of pasture, wastage of feed and associative effects of feeds. Comparing pasture consumption estimated using the back calculation method between farms can lead to incorrect conclusions due errors in each farms estimate and it is best to compare pasture consumption on the same farm over time using the same method of estimation.

Figure 34: Estimated tonnes of home grown feed produced per milking hectare—South

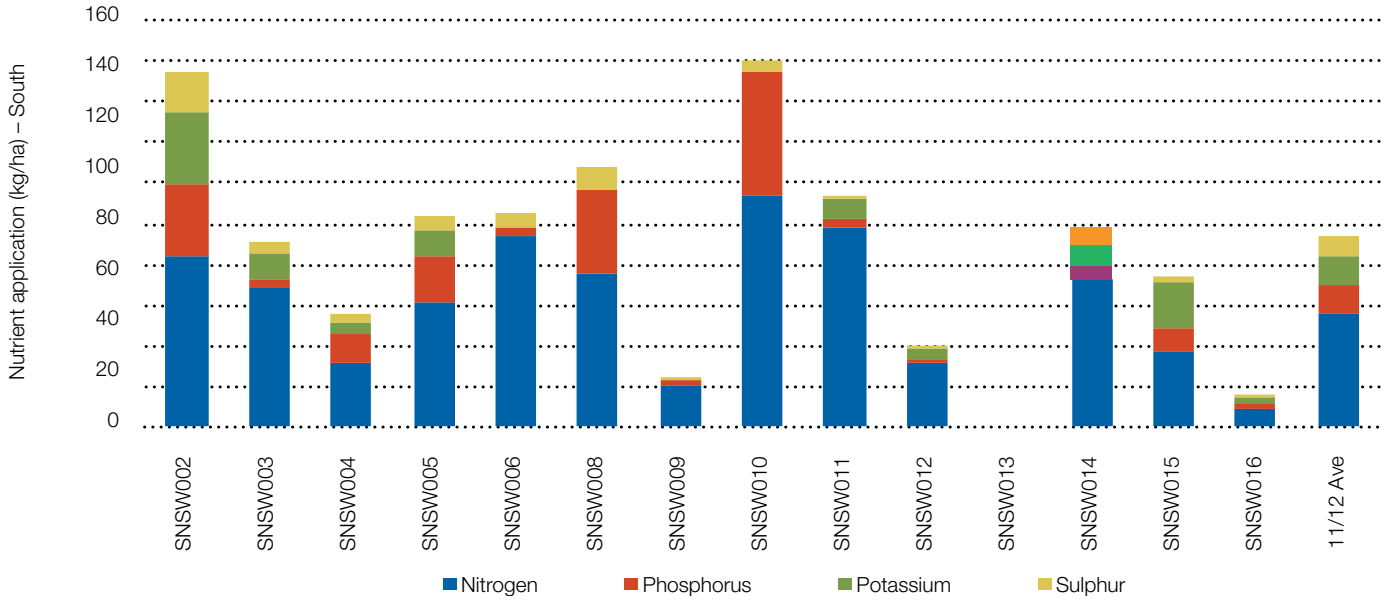


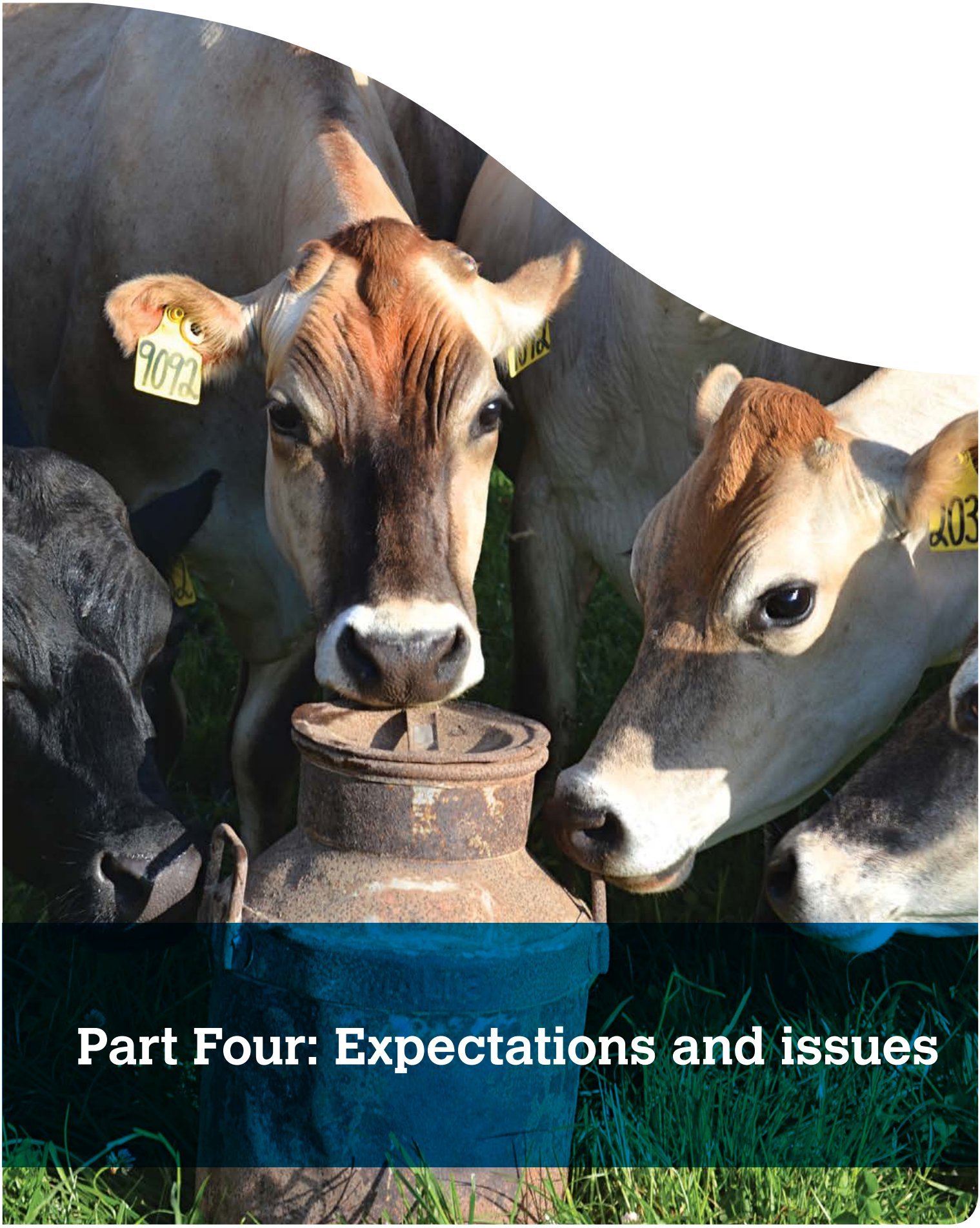
Fertiliser application

The relationship between fertiliser application per hectare and home grown feed consumed per hectare during 2012/13 is shown in Figures 23 and 24. There are no discernible trends between those farms that applied the greatest amount of fertiliser and those that had the greatest amount of home grown feed.

This could be due to a range of factors including soil type, irrigation scheduling, grazing management, and timing of rain events and damage from flooding or locusts. Figure 34 is based on the milking area only, whereas Figure 35 refers to nutrients applied over the whole farm usable area

Figure 35. Nutrient application per hectare—South





Part Four: Expectations and issues

Expectations and issues

Responses to this business confidence survey were made during the data collection phase in October to December 2013 with regard to the 2013/14 financial year.

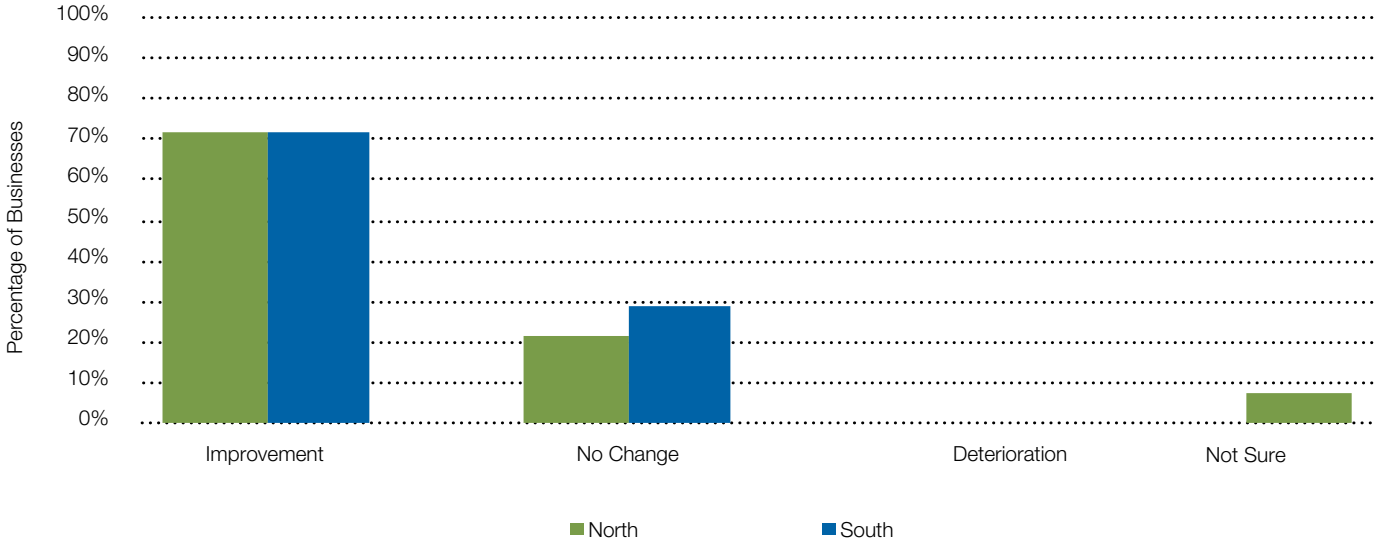
Expectations for business returns

Following a challenging 2012/13 year, and the expectation of a higher milk price in the coming year, around 70% of farmers predict an improvement in farm business returns (Figure 36).

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

Across both regions, around 70% of participants expect their farm business returns to improve in 2013/14 as shown in Figure 36. The remainder of the farms in the South expected no change, while in the North 22% expected no change and 8% were not sure.

Figure 36: Expected change to farm business returns in 2013/14

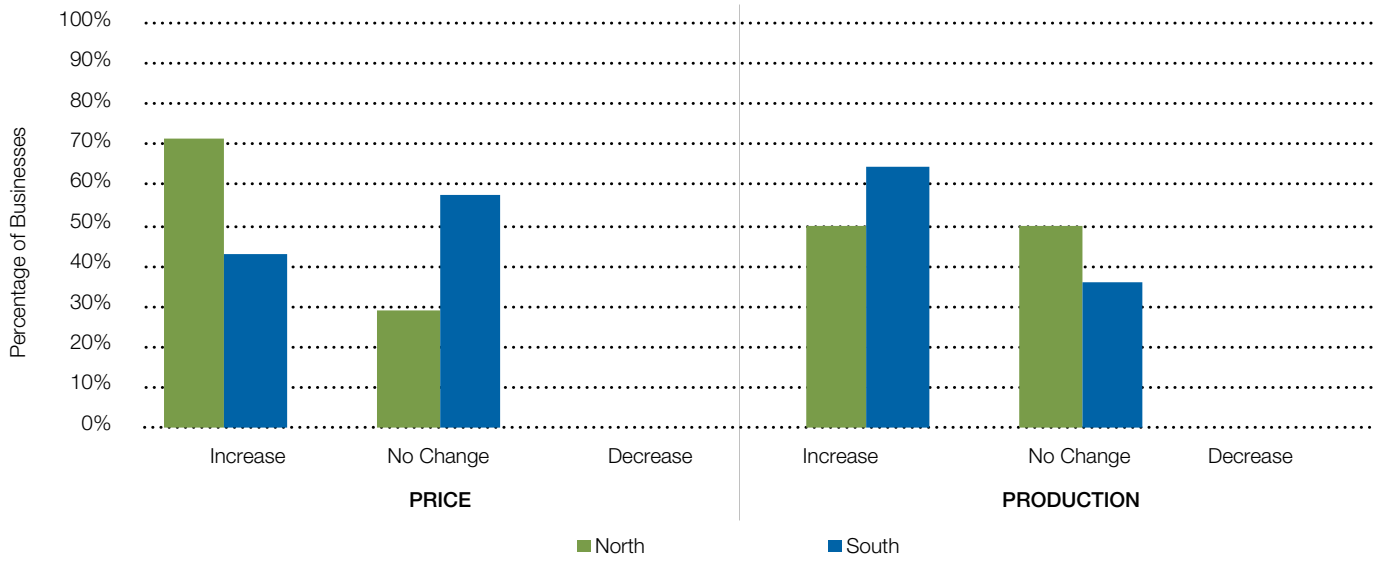


Price and production expectations - milk

All farms are expecting milk price to remain unchanged or improve in 2013/14. Almost three quarters of farms in the North are anticipating an increase and 30% expecting no change. In the South group, only 40% expect a milk price rise while 60% anticipate no change.

The expectation about future milk production is more evenly split between improvement and no change. In the North, 50% of farmers indicated that they will increase milk production in the coming year, and 50% indicated no change. In the South, around 65% expected to increase production whilst 35% expect no change in production.

Figure 37: Producer expectations of prices and production of milk in 2013/14



Price and production expectations - fodder

The expectation about future fodder prices is mixed for the North and South regions. The majority of farms in the North (60%) expect fodder prices to remain unchanged next year (Figure 38), with 25% expecting them to actually increase. The poor finishing conditions in the southern half of the NSW grain belt with late frosts and dry weather has affected the size and quality of the harvest.

Farmers in the South are evenly split with 40% each expecting an increase and a decrease in fodder prices, with only 20% expecting no change. This highlights the huge spread in geographical location of the participating farmers.

The majority of farmers in both regions are expecting to increase their fodder production, in the likelihood of better seasonal conditions, and reflecting the depletion of fodder inventories and the need to rebuild stored fodder supplies.

Cost expectations

Data presented in Figure 39 represents the expectations of costs for the dairy industry from the 28 farms in the project, excluding the costs of irrigation which was answered by those farms that have significant irrigation.

There are some clear trends surrounding some of the key costs in the dairy industry with over 50% of participants around the state expecting costs for purchased fertiliser, fuel and oil, repairs and maintenance and labour to rise during 2013/14.

Figure 38: Producer expectations of prices and production of fodder in 2013/14

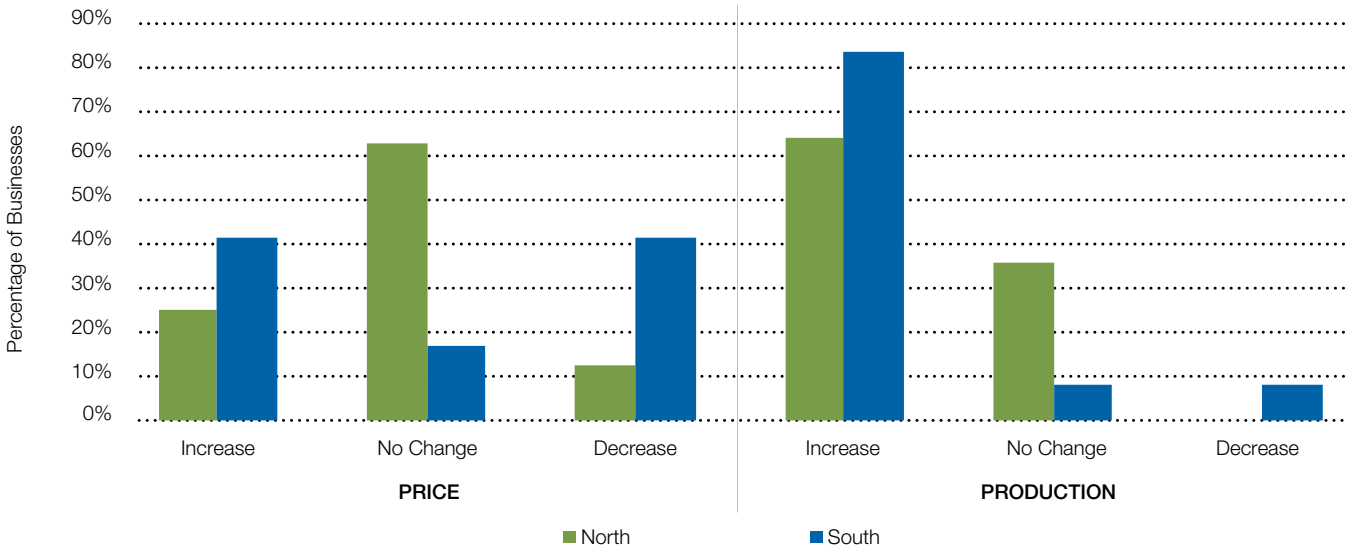
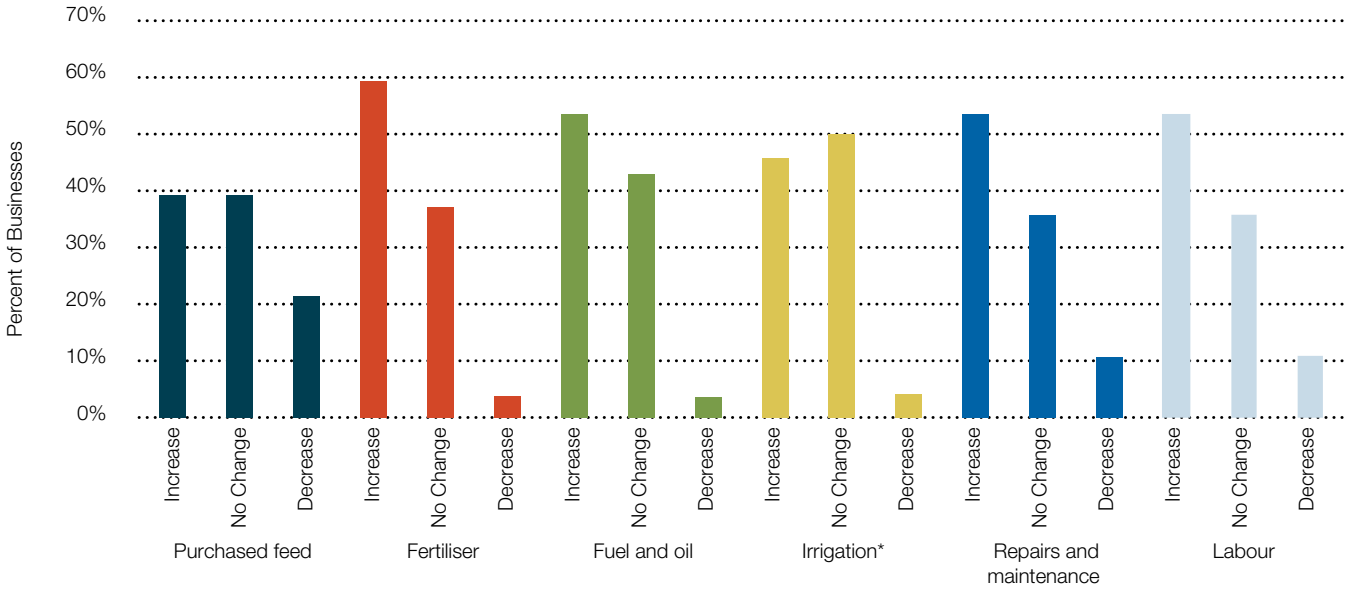


Figure 39. Producer expectations of costs for the dairy industry in 2013/14



Major issues in the NSW dairy industry – The next 12 months

A summary of the key issues identified by participant businesses over the coming 12 months are identified in Figure 40 below. All these participating farms had at least one response to this question, with 51 responses recorded.

The major concern identified by participating farms with 21% of responses was the declining terms of trade, with lowered milk income and rising costs. Many felt that milk price is not keeping pace with costs of production, with a common theme that the returns are low relative to the amount of effort required to run a dairy business.

Labour issues were the second biggest concern with 20% of the responses, particularly finding and retaining skilled reliable people.

Seasonal conditions were third with 12%, particularly concerns around the dry season and the prospect of returning to drought.

Other issues mentioned were: the need for industry stability; the entrance of Murray Goulburn into the liquid milk market; and animal health and welfare.

Major issues in the the NSW dairy industry - The next 5 years

The key issues identified by individual participants for their business over the next five years are identified in Figure 41below. A total of 62 responses were recorded from the 28 farms.

Labour management (13% of responses), succession planning (13%) and milk price (13 %) were identified as the key issues in the dairy industry over the next five years.

Industry stability and access to markets (10%), controlling costs of production (10%) seasonal conditions and access to water (12%) and farm expansion and development where land prices are high were also common concerns.

A number of farms indicated that they that they are positive for the long term future of the industry, especially following the entry of Murray Goulburn into the NSW liquid milk market.

Figure 40: Major Issues for Individual Businesses – 12 Month Outlook

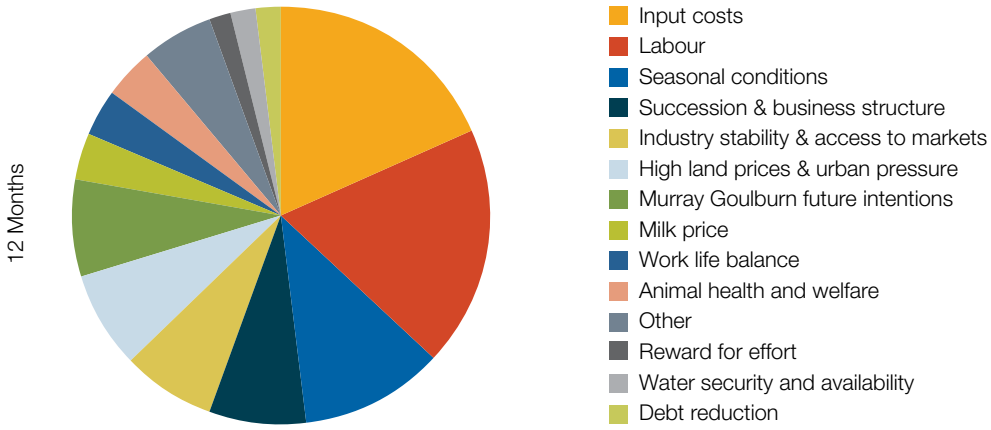
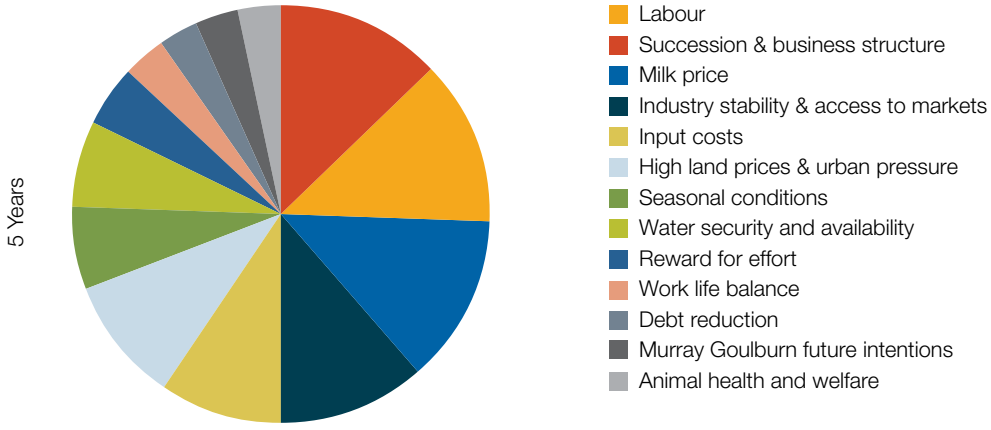


Figure 41: Major Issues for Individual Businesses – 5 Year Outlook



Part Five: Appendices

Appendix A: Statewide

Table A1: Main Financial Indicators - Statewide

	Milk income (net)	All other income	Gross farm income	Total variable costs	Total overhead costs	Cost structure (Variable costs / Total costs)	Earnings Before Interest & Tax	Return on assets (excl. capital apprec.)	Interest & lease charges	Debt servicing ratio	Net farm income	Return on equity	Return on equity (incl. capital apprec.)
	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	%	$/ kg MS	%	$/ kg MS	% of income	$/ kg MS	%	%
Average	$6.43	$0.77	$7.20	$3.79	$2.90	57%	$0.51	1.7%	$0.62	8.7%	-$0.10	-0.5%	-0.8%
Top 25%	$6.22	$0.99	$7.21	$3.70	$2.41	60%	$1.09	5.0%	$0.53	7.6%	$0.56	3.6%	2.9%

Table A2: Physical Information - Statewide

	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	329	140	1,064	349	1.2	492	608	3.9%	3.3%
Top 25%	264	115	1,004	329	1.3	531	711	3.8%	3.4%

Table A2: Physical Information - Statewide

	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	6.9	1.3	57%	89.2	12.5	17.3	7.4	76	37,384
Top 25%	7.2	1.7	52%	67.5	17.7	24.8	4.8	81	42,467

Table A3: Purchased feed - Statewide

	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	2.3	$323	$127	$234	$181	$312	12.3	2.6	43%
Top 25%	2.7	$322	$19	$252	$120	$305	12.1	2.6	48%

Table A4: Variable costs - Statewide

	AI & herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd & shed costs	Fertiliser	Irrigation	Hay & silage making
	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS
Average	$0.12	$0.16	$0.05	$0.16	$0.12	$0.61	$0.33	$0.23	$0.11
Top 25%	$0.09	$0.15	$0.02	$0.13	$0.09	$0.48	$0.26	$0.31	$0.08

	Fuel & 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	$0.14	$0.26	$0.14	$0.31	$1.56	$0.09	$3.18	$3.79
Top 25%	$0.14	$0.20	$0.03	$0.58	$1.56	$0.07	$3.22	$3.70

Table A5: Overhead costs - Statewide

	Rates	Registration & insurance	Farm insurance	Repairs & maintenance	Bank charges	Other overheads	Employed Labour	Total cash overheads	Depreciation	Imputed owner/ operator & family labour	Total overheads
	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS
Average	$0.05	$0.06	$0.08	$0.47	$0.02	$0.16	$0.87	$1.71	$0.40	$0.79	$2.90
Top 25%	$0.04	$0.07	$0.06	$0.37	$0.02	$0.10	$0.64	$1.30	$0.36	$0.75	$2.41

Table A6: Variable costs - Statewide

	AI & herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd & shed costs	Fertiliser	Irrigation	Hay & silage making
	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs
Average	1.7%	2.4%	0.7%	2.4%	1.8%	9.1%	4.8%	3.5%	1.6%
Top 25%	1.5%	2.4%	0.3%	2.2%	1.5%	7.8%	4.2%	4.6%	1.2%

	Fuel & 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	2.1%	3.8%	2.0%	4.8%	23.5%	1.3%	47.7%	56.8%
Top 25%	2.3%	3.2%	0.5%	9.2%	25.5%	1.0%	52.4%	60.2%

Table A7: Overhead costs - Statewide

	Rates	Registration & insurance	Farm insurance	Repairs & 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	0.8%	0.9%	1.2%	6.9%	0.3%	2.4%	12.8%	25.4%	6.0%	11.8%	43.2%
Top 25%	0.6%	1.2%	1.1%	5.8%	0.4%	1.7%	10.4%	21.2%	6.1%	12.5%	39.8%

Table A8: Capital structure - Statewide

	Farm Assets				Other farm assets (per usable hectare)				
	Land value	Land value	Permanent water value	Permanent water value	Plant & equipment	Livestock	Hay & grain	Other assets	Total assets
	$/ha	$/cow	$/ha	$/cow	$/ha	$/ha	$/ha	$/ha	$/ha
Average	$15,934	$11,529	$3,147	$2,353	$2,253	$2,169	$219	$123	$20,170
Top 25%	$6,806	$5,755	$1,950	$1,952	$2,401	$2,325	$324	$11	$14,851

	Liabilities		Equity	
	Liabilities per usable hectare	Liabilities per milking cow	Equity per usable hectare	Average equity
	$/ha	$/cow	$/ha	%
Average	$4,656	$3,842	$15,513	77%
Top 25%	$4,407	$3,411	$10,444	71%

Appendix B: North

Table B1: Main Financial Indicators - North

Farm number	Milk income (net)	All other income	Gross farm income	Total variable costs	Total overhead costs	Cost structure (Variable costs / Total costs)	Earnings Before Interest & Tax	Return on assets (excl. Capital Appreciation)	Interest & lease charges	Debt servicing ratio	Net farm income	Return on equity	Return on equity (incl. capital apprec.)
	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	%	$/ kg MS	%	$/ kg MS	% of income	$/ kg MS	%	%
NNSW002	$6.46	$1.64	$8.10	$3.68	$4.12	47%	$0.29	0.7%	$0.09	1.1%	$0.21	0.5%	0.5%
NNSW003	$7.10	$0.69	$7.79	$5.43	$3.67	60%	-$1.31	-3.6%	$0.42	5.5%	-$1.74	-7.4%	-7.3%
NNSW004	$7.29	$0.50	$7.78	$4.01	$3.12	56%	$0.65	3.1%	$0.05	0.6%	$0.60	3.0%	3.1%
NNSW005	$7.32	$0.19	$7.51	$3.70	$3.17	54%	$0.64	2.3%	$0.00	0.0%	$0.64	2.3%	2.3%
NNSW006	$6.64	$0.25	$6.89	$4.39	$3.25	57%	-$0.75	-2.2%	$0.93	13.5%	-$1.68	-8.4%	-8.2%
NNSW007	$6.73	$0.33	$7.06	$4.18	$3.23	56%	-$0.35	-0.6%	$0.26	3.6%	-$0.61	-1.5%	-1.4%
NNSW008	$6.53	$0.17	$6.70	$2.80	$3.74	43%	$0.16	0.4%	$0.04	0.6%	$0.12	0.3%	0.3%
NNSW009	$6.65	$0.11	$6.76	$3.99	$2.56	61%	$0.21	0.5%	$1.27	18.8%	-$1.06	-3.6%	-3.6%
NNSW010	$7.21	$0.77	$7.98	$3.73	$3.79	50%	$0.47	0.7%	$1.07	13.5%	-$0.61	-1.2%	0.7%
NNSW011	$6.62	$0.43	$7.05	$3.45	$3.12	52%	$0.48	1.2%	$0.16	2.3%	$0.32	0.9%	0.9%
NNSW015	$6.77	$0.47	$7.24	$4.27	$2.27	65%	$0.70	2.6%	$0.33	4.5%	$0.37	1.9%	1.9%
NNSW016	$7.03	$1.95	$8.98	$4.09	$4.48	48%	$0.41	0.7%	$0.39	4.4%	$0.02	0.1%	0.2%
NNSW017	$6.77	$0.97	$7.74	$3.98	$2.60	61%	$1.16	2.8%	$2.26	29.2%	-$1.10	-7.1%	-7.3%
NNSW018	$6.49	$0.43	$6.92	$4.31	$2.35	65%	$0.26	0.8%	$0.82	11.8%	-$0.56	-2.3%	-4.6%
Average	$6.83	$0.63	$7.46	$4.00	$3.25	55%	$0.22	0.7%	$0.58	7.8%	-$0.36	-1.6%	-1.6%

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	%	%
NNSW002	108	50	1,202	103	1.0	426	407	4.0%	3.2%
NNSW003	221	104	1,722	420	1.9	336	639	4.3%	3.3%
NNSW004	95	80	2,383	180	1.9	460	871	4.1%	3.5%
NNSW005	197	100	1,355	279	1.4	509	721	4.1%	3.3%
NNSW006	101	100	931	219	2.2	512	1116	3.7%	3.1%
NNSW007	255	160	778	240	0.9	459	432	3.7%	3.1%
NNSW008	262	85	1,014	234	0.9	502	449	3.8%	3.2%
NNSW009	300	94	801	483	1.6	520	837	3.6%	3.2%
NNSW010	361	101	1,265	220	0.6	462	281	3.9%	3.2%
NNSW011	180	140	1,489	400	2.2	424	943	4.8%	3.9%
NNSW015	215	97	1,830	300	1.4	488	681	3.5%	3.1%
NNSW016	218	200	2,161	172	0.8	357	282	4.1%	3.2%
NNSW017	607	226	836	770	1.3	491	622	3.8%	3.2%
NNSW018	1,569	280	761	1,036	0.7	490	324	3.7%	3.2%
Average	335	130	1,323	361	1.3	460	615	4.0%	3.3%

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
NNSW002	7.2	0.7	68%	99.1	10.0	8.3	10.7	64	27,368
NNSW003	9.2	0.0	71%	222.2	37.4	58.9	19.3	60	20,010
NNSW004	5.2	1.3	61%	208.2	25.7	141.6	10.6	51	23,341
NNSW005	7.7	0.9	63%	249.3	42.1	59.2	40.2	63	32,013
NNSW006	8.1	1.4	61%	276.0	5.2	0.0	4.4	63	32,235
NNSW007	5.6	0.6	58%	39.7	0.0	0.0	0.0	77	35,218
NNSW008	9.7	0.7	54%	66.7	2.5	9.5	1.3	73	36,809
NNSW009	5.5	0.0	33%	131.8	12.9	25.2	9.1	72	37,410
NNSW010	7.0	1.9	66%	70.1	0.0	13.1	5.7	72	33,335
NNSW011	8.7	1.2	68%	158.4	0.0	0.0	0.0	74	31,417
NNSW015	11.2	0.2	58%	198.0	20.5	31.7	33.4	64	31,055
NNSW016	3.7	0.8	63%	38.8	8.3	12.0	1.2	50	17,735
NNSW017	2.2	8.9	48%	10.6	0.0	4.9	0.0	88	43,050
NNSW018	11.8	1.2	58%	89.3	14.8	24.7	15.6	102	50,112
Average	7.4	1.4	59%	132.7	12.8	27.8	10.8	69	32,222

**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
NNSW002	1.5	$404	-	-	-	$404	12.5	3.3	32%
NNSW003	0.8	$462	-	-	$65	$453	12.2	3.8	29%
NNSW004	1.7	$395	$135	$384	-	$386	11.9	3.3	39%
NNSW005	1.3	$295	-	-	$325	$311	12.4	2.6	37%
NNSW006	1.8	$290	-	-	-	$290	13.2	2.2	39%
NNSW007	2.1	$378	-	$301	$301	$375	12.9	3.0	42%
NNSW008	1.9	$242	-	-	-	$242	12.4	2.0	46%
NNSW009	2.5	$282	-	$297	-	$283	13.2	2.2	67%
NNSW010	1.5	$293	-	-	-	$293	13.0	2.3	34%
NNSW011	1.4	$338	-	-	-	$338	12.5	2.7	32%
NNSW015	2.2	$279	$160	$335	-	$278	11.5	2.5	42%
NNSW016	1.3	$423	-	$240	$204	$384	12.1	3.3	37%
NNSW017	2.9	$300	-	-	-	$300	13.0	2.3	52%
NNSW018	1.7	$309	-	$262	$147	$300	12.6	2.4	42%
Average	1.8	$335	$148	$260	$174	$331	12.5	2.7	41%

Table B4: Variable costs - North

Farm number	AI & herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd & shed costs	Fertiliser	Irrigation	Hay & silage making
	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS
NNSW002	$0.06	$0.14	$0.08	$0.15	$0.18	$0.61	$0.56	$0.33	$0.14
NNSW003	$0.25	$0.08	$0.24	$0.30	$0.18	$1.06	$0.78	$0.00	$0.34
NNSW004	$0.06	$0.10	$0.00	$0.13	$0.12	$0.40	$0.59	$0.01	$0.31
NNSW005	$0.14	$0.17	$0.02	$0.16	$0.19	$0.68	$0.88	$0.22	$0.24
NNSW006	$0.01	$0.11	$0.01	$0.33	$0.12	$0.57	$0.29	$0.27	$0.08
NNSW007	$0.05	$0.14	$0.00	$0.13	$0.19	$0.52	$0.14	$0.66	$0.08
NNSW008	$0.08	$0.23	$0.01	$0.10	$0.09	$0.51	$0.27	$0.08	$0.04
NNSW009	$0.08	$0.26	$0.00	$0.16	$0.10	$0.60	$0.33	$0.39	$0.17
NNSW010	$0.22	$0.31	$0.00	$0.22	$0.02	$0.77	$0.47	$0.12	$0.05
NNSW011	$0.12	$0.13	$0.07	$0.14	$0.24	$0.69	$0.22	$0.69	$0.03
NNSW015	$0.11	$0.17	$0.00	$0.16	$0.10	$0.53	$0.76	$0.01	$0.04
NNSW016	$0.07	$0.09	$0.37	$0.26	$0.15	$0.93	$0.63	$0.00	$0.29
NNSW017	$0.11	$0.23	$0.00	$0.26	$0.04	$0.64	$0.05	$0.43	$0.11
NNSW018	$0.13	$0.19	$0.05	$0.14	$0.17	$0.68	$0.70	$0.44	$0.04
Average	$0.11	$0.17	$0.06	$0.19	$0.13	$0.66	$0.48	$0.26	$0.14

Farm number	Fuel & 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
NNSW002	$0.16	$0.13	$0.00	$0.00	$1.69	$0.07	$3.07	$3.68
NNSW003	$0.25	$0.74	$0.16	$0.00	$1.47	$0.64	$4.38	$5.43
NNSW004	$0.05	$0.54	$0.05	$0.39	$1.45	$0.22	$3.61	$4.01
NNSW005	$0.09	$0.26	$0.00	$0.09	$1.24	$0.00	$3.02	$3.70
NNSW006	$0.10	$0.91	$0.26	$0.12	$1.48	$0.31	$3.82	$4.39
NNSW007	$0.07	$0.34	$0.23	$0.16	$1.99	$0.00	$3.67	$4.18
NNSW008	$0.17	$0.27	$0.08	$0.00	$1.31	$0.08	$2.30	$2.80
NNSW009	$0.22	$0.19	$0.18	$0.11	$1.73	$0.07	$3.39	$3.99
NNSW010	$0.29	$0.62	$0.24	$0.00	$1.17	$0.00	$2.96	$3.73
NNSW011	$0.14	$0.18	$0.00	$0.00	$1.49	$0.00	$2.75	$3.45
NNSW015	$0.14	$0.22	$0.40	$0.79	$1.38	$0.00	$3.74	$4.27
NNSW016	$0.14	$0.19	$0.23	$0.00	$1.67	$0.00	$3.16	$4.09
NNSW017	$0.10	$0.11	$0.00	$0.00	$2.02	$0.53	$3.34	$3.98
NNSW018	$0.07	$0.40	$0.53	$0.21	$1.25	$0.00	$3.63	$4.31
Average	$0.14	$0.36	$0.17	$0.13	$1.52	$0.14	$3.34	$4.00

Table B5: Overhead costs - North

Farm number	Rates	Registration & insurance	Farm insurance	Repairs & 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
NNSW002	$0.08	$0.05	$0.20	$0.57	$0.03	$0.48	$0.90	$2.32	$0.65	$1.15	$4.12
NNSW003	$0.05	$0.02	$0.06	$0.54	$0.02	$0.15	$1.31	$2.15	$0.15	$1.37	$3.67
NNSW004	$0.06	$0.03	$0.03	$0.93	$0.03	$0.07	$0.47	$1.61	$0.18	$1.32	$3.12
NNSW005	$0.04	$0.04	$0.06	$0.82	$0.01	$0.20	$1.15	$2.31	$0.30	$0.55	$3.17
NNSW006	$0.03	$0.00	$0.10	$0.65	$0.10	$0.12	$0.58	$1.57	$0.52	$1.16	$3.25
NNSW007	$0.05	$0.08	$0.27	$0.64	$0.02	$0.10	$0.61	$1.77	$0.32	$1.13	$3.23
NNSW008	$0.04	$0.08	$0.00	$0.66	$0.00	$0.09	$2.38	$3.24	$0.49	$0.00	$3.74
NNSW009	$0.03	$0.02	$0.19	$0.23	$0.00	$0.20	$0.28	$0.95	$0.45	$1.16	$2.56
NNSW010	$0.08	$0.28	$0.00	$1.02	$0.01	$0.19	$0.53	$2.10	$0.67	$1.02	$3.79
NNSW011	$0.20	$0.00	$0.15	$0.26	$0.01	$0.10	$0.35	$1.08	$0.49	$1.56	$3.12
NNSW015	$0.04	$0.03	$0.04	$0.29	$0.01	$0.10	$1.23	$1.75	$0.26	$0.27	$2.27
NNSW016	$0.06	$0.07	$0.00	$0.45	$0.02	$0.18	$2.06	$2.85	$0.61	$1.02	$4.48
NNSW017	$0.06	$0.03	$0.14	$0.31	$0.08	$0.44	$1.02	$2.09	$0.27	$0.24	$2.60
NNSW018	$0.02	$0.02	$0.03	$0.34	$0.02	$0.22	$1.40	$2.05	$0.31	$0.00	$2.35
Average	$0.06	$0.05	$0.09	$0.55	$0.03	$0.19	$1.02	$1.99	$0.41	$0.85	$3.25

Table B6: Variable costs - North
Percentage of total farm costs

Farm number	AI & herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd & shed costs	Fertiliser	Irrigation	Hay & silage making
	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs
NNSW002	0.8%	1.8%	1.0%	1.9%	2.3%	7.8%	7.1%	4.3%	1.8%
NNSW003	2.8%	0.9%	2.7%	3.3%	2.0%	11.6%	8.6%	0.0%	3.8%
NNSW004	0.8%	1.4%	0.0%	1.8%	1.6%	5.6%	8.3%	0.1%	4.3%
NNSW005	2.0%	2.5%	0.3%	2.4%	2.7%	9.9%	12.8%	3.2%	3.5%
NNSW006	0.1%	1.4%	0.1%	4.3%	1.6%	7.5%	3.9%	3.6%	1.0%
NNSW007	0.7%	2.0%	0.0%	1.7%	2.6%	7.0%	1.9%	8.9%	1.0%
NNSW008	1.2%	3.5%	0.1%	1.6%	1.4%	7.8%	4.2%	1.2%	0.6%
NNSW009	1.2%	4.0%	0.0%	2.4%	1.5%	9.1%	5.0%	6.0%	2.6%
NNSW010	2.9%	4.1%	0.0%	3.0%	0.2%	10.2%	6.3%	1.5%	0.7%
NNSW011	1.8%	1.9%	1.0%	2.2%	3.7%	10.5%	3.4%	10.5%	0.5%
NNSW015	1.6%	2.6%	0.0%	2.4%	1.5%	8.1%	11.6%	0.2%	0.6%
NNSW016	0.8%	1.1%	4.3%	3.0%	1.7%	10.9%	7.4%	0.0%	3.4%
NNSW017	1.6%	3.5%	0.0%	3.9%	0.6%	9.7%	0.7%	6.5%	1.6%
NNSW018	1.9%	2.8%	0.8%	2.1%	2.6%	10.2%	10.5%	6.6%	0.5%
Average	1.5%	2.4%	0.7%	2.6%	1.9%	9.0%	6.5%	3.8%	1.8%

Farm number	Fuel & 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
NNSW002	2.0%	1.6%	0.0%	0.0%	21.7%	0.8%	39.3%	47.2%
NNSW003	2.7%	8.1%	1.7%	0.0%	16.2%	7.0%	48.1%	59.7%
NNSW004	0.8%	7.6%	0.6%	5.5%	20.4%	3.1%	50.7%	56.3%
NNSW005	1.4%	3.9%	0.0%	1.3%	18.0%	0.0%	44.0%	53.9%
NNSW006	1.3%	11.9%	3.3%	1.6%	19.4%	4.0%	50.0%	57.4%
NNSW007	1.0%	4.6%	3.1%	2.1%	26.8%	0.1%	49.5%	56.4%
NNSW008	2.6%	4.1%	1.2%	0.0%	20.1%	1.2%	35.1%	42.9%
NNSW009	3.4%	2.9%	2.7%	1.7%	26.4%	1.0%	51.7%	60.8%
NNSW010	3.9%	8.2%	3.2%	0.0%	15.5%	0.0%	39.4%	49.6%
NNSW011	2.1%	2.7%	0.0%	0.0%	22.6%	0.0%	41.9%	52.5%
NNSW015	2.2%	3.3%	6.1%	12.1%	21.2%	0.0%	57.2%	65.2%
NNSW016	1.7%	2.2%	2.7%	0.0%	19.5%	0.0%	36.9%	47.7%
NNSW017	1.5%	1.7%	0.0%	0.0%	30.7%	8.0%	50.8%	60.5%
NNSW018	1.0%	6.0%	7.9%	3.1%	18.7%	0.0%	54.5%	64.7%
Average	2.0%	4.9%	2.3%	2.0%	21.2%	1.8%	46.3%	55.3%

Table B7: Overhead costs - North
Percentage of total farm costs

Farm number	Rates	Registration & insurance	Farm insurance	Repairs & 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
NNSW002	1.0%	0.7%	2.5%	7.3%	0.4%	6.1%	11.6%	29.7%	8.4%	14.8%	52.8%
NNSW003	0.5%	0.2%	0.6%	5.9%	0.3%	1.6%	14.4%	23.6%	1.6%	15.1%	40.3%
NNSW004	0.8%	0.5%	0.4%	13.0%	0.4%	0.9%	6.6%	22.6%	2.5%	18.6%	43.7%
NNSW005	0.5%	0.6%	0.8%	11.9%	0.2%	2.9%	16.8%	33.7%	4.4%	8.0%	46.1%
NNSW006	0.3%	0.0%	1.4%	8.5%	1.3%	1.5%	7.5%	20.6%	6.8%	15.2%	42.6%
NNSW007	0.6%	1.1%	3.7%	8.7%	0.2%	1.4%	8.3%	24.0%	4.3%	15.3%	43.6%
NNSW008	0.7%	1.2%	0.0%	10.1%	0.0%	1.3%	36.3%	49.6%	7.6%	0.0%	57.1%
NNSW009	0.5%	0.4%	2.8%	3.5%	0.0%	3.1%	4.3%	14.5%	6.9%	17.7%	39.2%
NNSW010	1.0%	3.7%	0.0%	13.6%	0.2%	2.5%	7.0%	28.0%	8.9%	13.5%	50.4%
NNSW011	3.0%	0.1%	2.4%	4.0%	0.1%	1.5%	5.3%	16.4%	7.4%	23.7%	47.5%
NNSW015	0.6%	0.5%	0.7%	4.5%	0.2%	1.5%	18.8%	26.7%	4.0%	4.1%	34.8%
NNSW016	0.7%	0.8%	0.0%	5.3%	0.3%	2.1%	24.1%	33.2%	7.1%	11.9%	52.3%
NNSW017	1.0%	0.4%	2.2%	4.7%	1.2%	6.7%	15.6%	31.7%	4.2%	3.6%	39.5%
NNSW018	0.3%	0.2%	0.5%	5.1%	0.3%	3.3%	21.1%	30.7%	4.6%	0.0%	35.3%
Average	0.8%	0.7%	1.3%	7.6%	0.4%	2.6%	14.1%	27.5%	5.6%	11.5%	44.7%

Table B8: Capital structure - North

	Farm Assets				Other farm assets (per usable hectare)				
	Land value	Land value	Permanent water value	Permanent water value	Plant & equipment	Livestock	Hay & grain	Other assets	Total assets
	$/ha	$/cow	$/ha	$/cow	$/ha	$/ha	$/ha	$/ha	$/ha
Average	$15,505	$10,951	$4,140	$2,757	$2,343	$2,273	$215	$210	$20,758

Liabilities		Equity	
Liabilities per usable hectare	Liabilities per milking cow	Equity per usable hectare	Average equity
$/ha	$/cow	$/ha	%
$4,014	$2,837	$16,745	84%

Appendix C: South

Table C1: Main Financial Indicators - South

Farm number	Milk income (net)	All other income	Gross farm income	Total variable costs	Total overhead costs	Cost structure (Variable costs / Total costs)	Earnings Before Interest & Tax	Return on assets (excl. capital apprec.)	Interest & lease charges	Debt servicing ratio	Net farm income	Return on equity	Return on equity (incl. capital apprec.)
	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	%	$/ kg MS	%	$/ kg MS	% of income	$/ kg MS	%	%
SNSW002	$6.94	$1.30	$8.23	$4.47	$3.66	55%	$0.11	0.2%	$0.78	9.5%	-$0.68	-2.0%	-2.0%
SNSW003	$5.78	$0.50	$6.28	$4.12	$1.82	69%	$0.34	1.5%	$0.66	10.6%	-$0.32	-2.5%	-2.5%
SNSW004	$6.63	$1.08	$7.71	$2.81	$3.63	44%	$1.27	1.5%	$0.38	4.9%	$0.89	1.6%	1.6%
SNSW005	$6.62	$1.02	$7.64	$3.10	$2.38	57%	$2.17	2.0%	$0.49	6.4%	$1.68	2.0%	2.1%
SNSW006	$5.89	$0.59	$6.48	$3.64	$2.59	58%	$0.25	0.7%	$0.96	14.9%	-$0.71	-4.0%	-5.3%
SNSW008	$6.79	$2.68	$9.47	$5.36	$2.35	69%	$1.76	9.4%	$0.63	6.7%	$1.13	10.0%	9.0%
SNSW009	$5.14	$1.47	$6.61	$3.28	$2.91	53%	$0.43	1.0%	$2.08	31.5%	-$1.65	-7.6%	-7.9%
SNSW010	$5.53	$1.11	$6.65	$3.68	$2.34	61%	$0.62	2.9%	$0.43	6.5%	$0.19	1.3%	-2.1%
SNSW011	$5.63	$0.03	$5.66	$4.02	$1.86	68%	-$0.21	-1.3%	$0.03	0.4%	-$0.24	-1.5%	-1.5%
SNSW012	$6.28	$0.71	$6.99	$3.20	$2.73	54%	$1.06	3.7%	$0.90	12.9%	$0.16	0.9%	0.9%
SNSW013	$6.47	$0.62	$7.09	$2.59	$2.46	51%	$2.04	7.5%	$0.69	9.7%	$1.36	7.2%	7.2%
SNSW014	$5.12	$0.53	$5.65	$3.39	$1.67	67%	$0.59	3.8%	$0.71	12.6%	-$0.12	-1.3%	-1.3%
SNSW015	$6.08	$0.75	$6.83	$3.69	$2.22	62%	$0.91	4.5%	$0.31	4.6%	$0.60	3.8%	3.7%
SNSW016	$5.54	$0.40	$5.94	$2.71	$3.19	46%	$0.05	0.2%	$0.17	2.8%	-$0.12	-0.6%	-0.6%
Average	$6.03	$0.91	$6.95	$3.57	$2.56	58%	$0.81	2.7%	$0.66	9.6%	$0.15	0.5%	0.1%

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	%	%
SNSW002	242	80	1,271	244	1.0	601	606	3.9%	3.4%
SNSW003	950	450	533	633	0.7	567	378	3.7%	3.2%
SNSW004	184	80	892	205	1.1	457	510	3.9%	3.2%
SNSW005	223	100	982	253	1.1	505	573	3.9%	3.2%
SNSW006	281	120	849	340	1.2	448	543	4.1%	3.2%
SNSW008	270	150	1,163	710	2.6	587	1544	3.6%	3.1%
SNSW009	280	156	490	257	0.9	474	435	3.7%	3.2%
SNSW010	389	139	892	320	0.8	582	479	3.2%	3.8%
SNSW011	170	124	1,028	250	1.5	574	844	3.5%	3.9%
SNSW012	276	101	567	255	0.9	557	515	3.9%	3.2%
SNSW013	126	50	765	155	1.2	425	523	4.5%	3.8%
SNSW014	395	180	724	448	1.1	520	590	3.7%	3.4%
SNSW015	299	105	533	232	0.8	585	454	3.8%	3.2%
SNSW016	430	277	582	410	1.0	443	422	4.2%	3.3%
Average	323	151	805	337	1.1	523	601	3.8%	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
SNSW002	6.3	0.1	36%	67.6	28.6	27.5	15.8	49	29,451
SNSW003	2.9	0.6	61%	54.8	3.9	9.6	4.5	99	56,121
SNSW004	7.8	0.3	67%	25.4	11.2	4.9	2.9	53	24,016
SNSW005	7.1	0.3	61%	49.0	18.6	10.3	5.4	93	47,146
SNSW006	7.6	3.2	66%	75.3	3.8	0.0	4.7	98	43,767
SNSW008	10.4	0.0	19%	60.4	33.1	0.0	8.8	67	39,601
SNSW009	4.0	1.0	66%	15.9	2.1	0.0	0.2	84	39,739
SNSW010	10.1	3.4	62%	91.0	49.4	0.0	3.7	66	38,222
SNSW011	7.1	0.7	48%	78.9	3.5	7.4	0.3	78	44,513
SNSW012	3.2	4.2	47%	25.0	1.0	5.4	1.2	65	36,115
SNSW013	6.6	0.0	50%	0.0	0.0	0.0	0.0	111	47,031
SNSW014	9.1	1.5	65%	58.0	5.5	8.3	6.8	132	68,772
SNSW015	5.9	1.3	59%	30.0	9.1	18.4	2.1	75	44,187
SNSW016	3.0	0.5	57%	7.7	1.4	2.3	0.1	83	36,955
Average	6.5	1.2	55%	45.6	12.2	6.7	4.0	82	42,545

**on milking area*

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
SNSW002	4.4	$325	$0	$211	$115	$297	11.7	2.6	64%
SNSW003	3.4	$285	$0	$205	$236	$274	11.1	2.6	39%
SNSW004	2.3	$334	$0	$228	$0	$314	12.1	2.7	33%
SNSW005	2.9	$353	$86	$228	$0	$304	11.4	2.8	39%
SNSW006	1.9	$362	$0	$275	$275	$354	12.4	2.9	34%
SNSW008	4.5	$250	$0	$235	$229	$247	11.6	2.3	81%
SNSW009	2.8	$250	$0	$127	$99	$229	12.0	2.0	34%
SNSW010	2.0	$326	$0	$167	$175	$286	12.2	2.4	38%
SNSW011	2.1	$244	$0	$206	$100	$238	11.7	2.1	52%
SNSW012	3.4	$293	$0	$148	$147	$250	12.3	2.2	53%
SNSW013	2.7	$203	$0	$162	$0	$187	11.4	1.7	50%
SNSW014	1.7	$361	$0	$291	$291	$353	12.5	2.9	35%
SNSW015	2.5	$428	$0	$380	$0	$424	12.7	3.4	41%
SNSW016	1.8	$334	$0	$0	$0	$334	12.9	2.6	43%
Average	2.7	$311	$86	$220	$185	$292	12.0	2.5	45%

Table C4: Variable costs - South

Farm number	AI & herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd & shed costs	Fertiliser	Irrigation	Hay & silage making
	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS	$/ kg MS
SNSW002	$0.08	$0.20	$0.12	$0.06	$0.19	$0.64	$0.15	$0.06	$0.01
SNSW003	$0.22	$0.16	$0.09	$0.13	$0.16	$0.76	$0.27	$0.01	$0.06
SNSW004	$0.13	$0.13	$0.06	$0.14	$0.10	$0.57	$0.13	$0.00	$0.01
SNSW005	$0.11	$0.15	$0.06	$0.16	$0.11	$0.58	$0.20	$0.00	$0.01
SNSW006	$0.06	$0.16	$0.07	$0.10	$0.12	$0.52	$0.15	$0.10	$0.30
SNSW008	$0.22	$0.34	$0.00	$0.20	$0.09	$0.85	$0.20	$0.27	$0.00
SNSW009	$0.30	$0.19	$0.01	$0.20	$0.12	$0.81	$0.06	$0.02	$0.02
SNSW010	$0.06	$0.10	$0.01	$0.06	$0.09	$0.32	$0.27	$0.58	$0.18
SNSW011	$0.14	$0.15	$0.03	$0.10	$0.19	$0.60	$0.34	$0.38	$0.42
SNSW012	$0.10	$0.07	$0.00	$0.15	$0.06	$0.38	$0.11	$0.35	$0.02
SNSW013	$0.03	$0.05	$0.00	$0.15	$0.17	$0.41	$0.00	$0.43	$0.00
SNSW014	$0.08	$0.22	$0.04	$0.12	$0.05	$0.51	$0.34	$0.50	$0.01
SNSW015	$0.09	$0.16	$0.09	$0.12	$0.04	$0.50	$0.32	$0.00	$0.02
SNSW016	$0.14	$0.09	$0.07	$0.10	$0.07	$0.46	$0.05	$0.20	$0.02
Average	$0.13	$0.15	$0.05	$0.13	$0.11	$0.56	$0.18	$0.21	$0.08

Farm number	Fuel & 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
SNSW002	$0.13	$0.05	$0.40	$0.65	$2.37	$0.00	$3.83	$4.47
SNSW003	$0.05	$0.21	$0.61	$0.46	$1.69	$0.00	$3.36	$4.12
SNSW004	$0.17	$0.05	$0.00	$0.25	$1.54	$0.09	$2.24	$2.81
SNSW005	$0.07	$0.12	$0.05	$0.53	$1.48	$0.05	$2.51	$3.10
SNSW006	$0.16	$0.47	$0.00	$0.21	$1.72	$0.00	$3.12	$3.64
SNSW008	$0.20	$0.16	$0.00	$1.55	$2.05	$0.09	$4.51	$5.36
SNSW009	$0.39	$0.09	$0.04	$0.28	$1.38	$0.21	$2.47	$3.28
SNSW010	$0.19	$0.26	$0.14	$0.43	$1.26	$0.05	$3.36	$3.68
SNSW011	$0.07	$0.30	$0.30	$0.51	$1.02	$0.07	$3.41	$4.02
SNSW012	$0.16	$0.10	$0.01	$0.27	$1.71	$0.09	$2.83	$3.20
SNSW013	$0.13	$0.08	$0.00	$0.64	$0.86	$0.03	$2.18	$2.59
SNSW014	$0.14	$0.12	$0.01	$0.22	$1.53	$0.00	$2.88	$3.39
SNSW015	$0.07	$0.15	$0.00	$0.58	$2.05	$0.00	$3.19	$3.69
SNSW016	$0.08	$0.09	$0.01	$0.19	$1.63	$0.00	$2.24	$2.71
Average	$0.14	$0.16	$0.11	$0.48	$1.59	$0.05	$3.01	$3.57

Table C5: Overhead costs - South

Farm number	Rates	Registration & insurance	Farm insurance	Repairs & 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
SNSW002	$0.05	$0.07	$0.07	$0.81	$0.01	$0.16	$0.94	$2.11	$0.40	$1.15	$3.66
SNSW003	$0.06	$0.00	$0.04	$0.25	$0.00	$0.08	$0.84	$1.27	$0.24	$0.31	$1.82
SNSW004	$0.07	$0.13	$0.09	$0.58	$0.01	$0.27	$1.27	$2.41	$0.41	$0.81	$3.63
SNSW005	$0.09	$0.04	$0.06	$0.39	$0.01	$0.17	$0.63	$1.39	$0.39	$0.59	$2.38
SNSW006	$0.02	$0.05	$0.12	$0.58	$0.00	$0.11	$0.98	$1.86	$0.48	$0.26	$2.59
SNSW008	$0.01	$0.03	$0.08	$0.26	$0.04	$0.11	$1.21	$1.74	$0.34	$0.27	$2.35
SNSW009	$0.05	$0.02	$0.06	$0.50	$0.02	$0.37	$0.32	$1.33	$0.43	$1.14	$2.91
SNSW010	$0.02	$0.00	$0.04	$0.55	$0.01	$0.09	$0.57	$1.28	$0.34	$0.73	$2.34
SNSW011	$0.02	$0.07	$0.06	$0.39	$0.01	$0.04	$0.30	$0.90	$0.08	$0.88	$1.86
SNSW012	$0.02	$0.19	$0.07	$0.34	$0.05	$0.12	$0.77	$1.55	$0.45	$0.73	$2.73
SNSW013	$0.04	$0.19	$0.12	$0.12	$0.01	$0.20	$0.46	$1.12	$0.55	$0.79	$2.46
SNSW014	$0.02	$0.03	$0.07	$0.22	$0.00	$0.06	$0.59	$1.00	$0.26	$0.42	$1.67
SNSW015	$0.07	$0.02	$0.05	$0.16	$0.03	$0.06	$0.43	$0.82	$0.41	$0.99	$2.22
SNSW016	$0.08	$0.01	$0.08	$0.37	$0.00	$0.10	$0.72	$1.37	$0.69	$1.13	$3.19
Average	$0.04	$0.06	$0.07	$0.39	$0.01	$0.14	$0.72	$1.44	$0.39	$0.73	$2.56

Table C6: Variable costs % - South
Percentage of total farm costs

Farm number	AI and herd test	Animal health	Calf rearing	Shed power	Dairy supplies	Total herd and shed costs	Fertiliser	Irrigation	Hay and silage making
	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs
SNSW002	0.9%	2.5%	1.5%	0.7%	2.3%	7.9%	1.9%	0.7%	0.1%
SNSW003	3.7%	2.6%	1.6%	2.2%	2.7%	12.8%	4.5%	0.1%	0.9%
SNSW004	2.1%	2.1%	0.9%	2.2%	1.6%	8.8%	2.0%	0.0%	0.2%
SNSW005	2.0%	2.7%	1.0%	3.0%	1.9%	10.6%	3.7%	0.0%	0.1%
SNSW006	0.9%	2.5%	1.2%	1.7%	2.0%	8.3%	2.4%	1.7%	4.9%
SNSW008	2.9%	4.4%	0.0%	2.6%	1.2%	11.0%	2.6%	3.5%	0.0%
SNSW009	4.8%	3.0%	0.1%	3.2%	1.9%	13.1%	0.9%	0.4%	0.3%
SNSW010	1.1%	1.6%	0.1%	1.0%	1.5%	5.3%	4.6%	8.3%	3.0%
SNSW011	2.3%	2.5%	0.5%	1.8%	3.2%	10.3%	5.8%	5.6%	7.2%
SNSW012	1.7%	1.1%	0.0%	2.5%	1.0%	6.3%	1.8%	5.8%	0.4%
SNSW013	0.7%	1.1%	0.0%	2.9%	3.4%	8.2%	0.0%	8.5%	0.0%
SNSW014	1.5%	4.4%	0.7%	2.3%	1.0%	10.0%	6.8%	6.3%	0.3%
SNSW015	1.5%	2.7%	1.5%	2.1%	0.6%	8.4%	5.4%	0.0%	0.4%
SNSW016	2.3%	1.5%	1.3%	1.7%	1.1%	7.8%	0.8%	3.3%	0.3%
Average	2.0%	2.5%	0.7%	2.1%	1.8%	9.2%	3.1%	3.2%	1.3%

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
SNSW002	1.6%	0.6%	4.9%	8.0%	29.2%	0.0%	47.1%	55.0%
SNSW003	0.8%	3.6%	10.3%	7.8%	28.5%	0.0%	56.5%	69.3%
SNSW004	2.6%	0.7%	0.0%	3.9%	24.0%	1.4%	34.8%	43.6%
SNSW005	1.3%	2.3%	0.8%	9.7%	27.0%	1.0%	45.9%	56.6%
SNSW006	2.6%	7.6%	0.0%	3.4%	27.6%	0.0%	50.1%	58.4%
SNSW008	2.6%	2.0%	0.0%	20.1%	26.6%	1.1%	58.5%	69.5%
SNSW009	6.3%	1.4%	0.6%	4.5%	22.2%	3.4%	39.9%	53.0%
SNSW010	3.1%	4.3%	2.3%	7.1%	20.9%	0.8%	55.8%	61.1%
SNSW011	1.2%	5.1%	5.2%	8.7%	17.4%	1.2%	58.1%	68.4%
SNSW012	2.7%	1.7%	0.2%	4.6%	28.9%	1.5%	47.7%	54.0%
SNSW013	2.6%	1.6%	0.0%	12.7%	17.1%	0.6%	43.1%	51.3%
SNSW014	2.8%	2.4%	0.1%	4.3%	30.3%	0.0%	57.0%	67.0%
SNSW015	1.2%	2.5%	0.0%	9.8%	34.6%	0.0%	54.0%	62.4%
SNSW016	1.3%	1.5%	0.1%	3.2%	27.6%	0.0%	38.1%	45.9%
Average	2.3%	2.7%	1.8%	7.7%	25.8%	0.8%	49.0%	58.2%

Table C7: Overhead costs - South
Percentage of total farm costs

Farm number	Rates	Registration and insurance	Farm insurance	Repairs and maintenance	Bank charges	Other overheads	Employed labour	Total cash overheads	Depreciation	Imputed owner/ operator & family labour	Total overheads
	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs	% of costs
SNSW002	0.6%	0.8%	0.9%	10.0%	0.1%	2.0%	11.5%	25.9%	4.9%	14.2%	45.0%
SNSW003	1.0%	0.1%	0.7%	4.1%	0.0%	1.3%	14.2%	21.4%	4.0%	5.3%	30.7%
SNSW004	1.2%	2.0%	1.3%	9.0%	0.1%	4.2%	19.7%	37.5%	6.4%	12.5%	56.4%
SNSW005	1.6%	0.7%	1.2%	7.2%	0.1%	3.2%	11.5%	25.5%	7.1%	10.8%	43.4%
SNSW006	0.3%	0.8%	1.9%	9.4%	0.1%	1.7%	15.7%	29.9%	7.6%	4.1%	41.6%
SNSW008	0.2%	0.4%	1.1%	3.3%	0.5%	1.5%	15.7%	22.6%	4.4%	3.6%	30.5%
SNSW009	0.7%	0.4%	0.9%	8.2%	0.2%	6.0%	5.2%	21.6%	6.9%	18.5%	47.0%
SNSW010	0.4%	0.0%	0.6%	9.1%	0.2%	1.5%	9.5%	21.2%	5.6%	12.1%	38.9%
SNSW011	0.4%	1.1%	1.0%	6.6%	0.2%	0.8%	5.2%	15.3%	1.4%	14.9%	31.6%
SNSW012	0.4%	3.1%	1.2%	5.7%	0.8%	1.9%	13.0%	26.1%	7.5%	12.3%	46.0%
SNSW013	0.7%	3.7%	2.4%	2.3%	0.2%	3.9%	9.0%	22.3%	10.8%	15.7%	48.7%
SNSW014	0.5%	0.6%	1.5%	4.3%	0.0%	1.2%	11.6%	19.7%	5.1%	8.2%	33.0%
SNSW015	1.2%	0.4%	0.8%	2.8%	0.5%	1.1%	7.2%	13.9%	7.0%	16.8%	37.6%
SNSW016	1.4%	0.1%	1.3%	6.3%	0.1%	1.7%	12.3%	23.2%	11.8%	19.2%	54.1%
Average	0.7%	1.0%	1.2%	6.3%	0.2%	2.3%	11.5%	23.3%	6.5%	12.0%	41.8%

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	$16,332	$12,066	$2,319	$2,016	$2,164	$2,066	$224	$36	$19,581

	Liabilities		Equity	
	Liabilities per usable hectare	Liabilities per milking cow	Equity per usable hectare	Average equity
	$/ha	$/cow	$/ha	%
Average	$5,299	$4,848	$14,282	70%

Glossary of terms

All other income
Income to the farm from all sources except milk. Includes livestock trading profit, feed inventory change, dividends, interest payments received, rents 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 is 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 & tax (EBIT)
Gross income minus total variable costs, total overhead costs.

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

Employed labour cost
Cash cost of any paid employee, including on-costs such as superannuation, 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) x dry matter content (DM %) x metabolisable energy (MJ/ kg DM)).

Gross farm income
Farm income including milk sales, livestock and feed trading gains and other income such as income from grants and rebates.

Gross margin
Gross income minus total variable costs.

Herd costs
Cost of AI and herd tests, animal health and calf rearing.

Imputed
An estimated amount, introduced into economic management analysis to allow reasonable comparisons between years and between other businesses.

Imputed labour cost
An allocated allowance for cost of owner/operator, family and sharefarmer time in the business, taken as the greater of $400 per cow less employed labour or $25 per hour.

Liability
Money owed to someone else, eg family or an institute 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. 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, sharefarmer 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 eg house and shed area.

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

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

List of abbreviations

AI	Artificial insemination.
BPR	Break-even price required.
C/l	Cents per litre.
CoP	Cost of production.
DFMP	Dairy Farm Monitor Project.
DM	Dry matter of feed stuffs.
DPI	Department of Primary Industries New South Wales.
EBIT	Earnings before interest and tax.
FTE	Full time equivalent.
ha	Hectares.
hd	Head of cattle.
kg	Kilograms.
ME	Metabolisable energy (MJ/kg).
MJ	Megajoules of energy.
mm	Millimetres. 1 mm is equivalent to 4 points or 1/25th of an inch of rainfall.
MS	Milk solids (proteins and fats).
Q1	First quartile, i.e. the value of which one quarter, or 25%, of data in that range is less than.
Q3	Third quartile, i.e. the value of which one quarter, or 25%, of data in that range is greater than.
RoA	Return on assets.
RoE	Return on equity.
t	Tonne = 1,000 kg.

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