



Dairy Farm Monitor Project
Tasmania
annual report 2014–15

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To find out the latest information on the project visit the project website at

dairyaustralia.com.au/dairyfarmmonitor

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How to read this report

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

This report is presented in the following sections:

- › Summary
- › Farm monitor method
- › Tasmania overview
- › Statewide performance
- › Business confidence survey
- › Appendices

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

The report presents visual descriptions of the data for the 2014/15 year. Data are presented for individual farms, as statewide averages and for the statewide top 25% of farms ranked by return on assets. The presented averages should not be considered averages for the population of farms in a given region due to the small sample size and these farms not being randomly selected.

The top 25% of farms are presented as striped bars in the Tasmanian performance figures. Return on assets is the determinant used to identify the top 25% of participants as it provides an assessment of the performance of the whole farm irrespective of differences in location and production system.

The Q1–Q3 data range for key indicators are also presented to provide an indication of the variation in the data. The Q1 value is the quartile 1 value, that is, the value of which one quarter (25%) of data in that range is less than the average. The Q3 value is the quartile 3 value that is the value of which one quarter (75%) of data in that range is greater than the average. Therefore the middle 50% of data resides between the Q1-Q3 data range.

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

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

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

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

Any reference to 'last year' refers to the 2013/14 Dairy Farm Monitor Project report. Price and cost comparisons between years are nominal unless otherwise stated. It should be noted that not all of the participants from 2013/14 are in the 2014/15 report, as there were new participants in this year's dataset. It is important to bear this in mind when comparing datasets between years.

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

What's new in 2014/15?

The Dairy Farm Monitor Report for 2014/15 includes a number of changes since last year's report. The most significant is:

- › The pasture consumption calculations have been revised to now align with the DEDJTR Dairy Pasture Consumption Calculator available online at dairypastureconsumptioncalculator.com.au

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

Summary



Summary

In 2014/15 the data obtained from 30 farms in Tasmania revealed average whole farm earnings before interest and tax (EBIT) of \$478,462, an 11% decrease compared with the previous year. Return on assets was 7.8% compared with last year's 9.6%.

This is the second year of the Dairy Farm Monitor Project in Tasmania.

In 2014/15, dairy farm profitability declined compared with 2013/14 predominantly due to a lower milk price. The average milk price received in 2014/15 was \$6.19/kg MS, a 10% decrease from \$6.87/kg MS in 2013/14.

There was only a small change in the overall cost of production. The average decreased by 1% from \$5.09/kg MS to \$5.02/kg MS. While expenditure on purchased feed and agistment costs increased, in particular a 9% rise in concentrates as farmers fed more per cow, overheads costs were less than in 2013/14. The cost of production of farms in the top 25% (ranked by return on assets) remained similar at \$4.54/kg MS this year, compared to \$4.54/kg MS last year.

Farmers sold more milk solids per hectare and per cow this year and although cost of production decreased slightly, this did not offset the effect of the lower milk price received this year.

Of the 30 participants, 29 recorded positive return on assets and return on equity, compared to 2013/14 where all farms recorded a positive return on both of these measures.

Although farmers received below average annual rainfall, there were regular rainfall events throughout the year. The 2014/15 season began with a mild winter and then ran into dry period in spring. This was followed by late spring and early summer rainfall resulting in adequate silage and hay being conserved. On average pasture consumption increased for the year to 10 t DM/ha being comprised of 9.3 t DM/ha as grazed pasture with

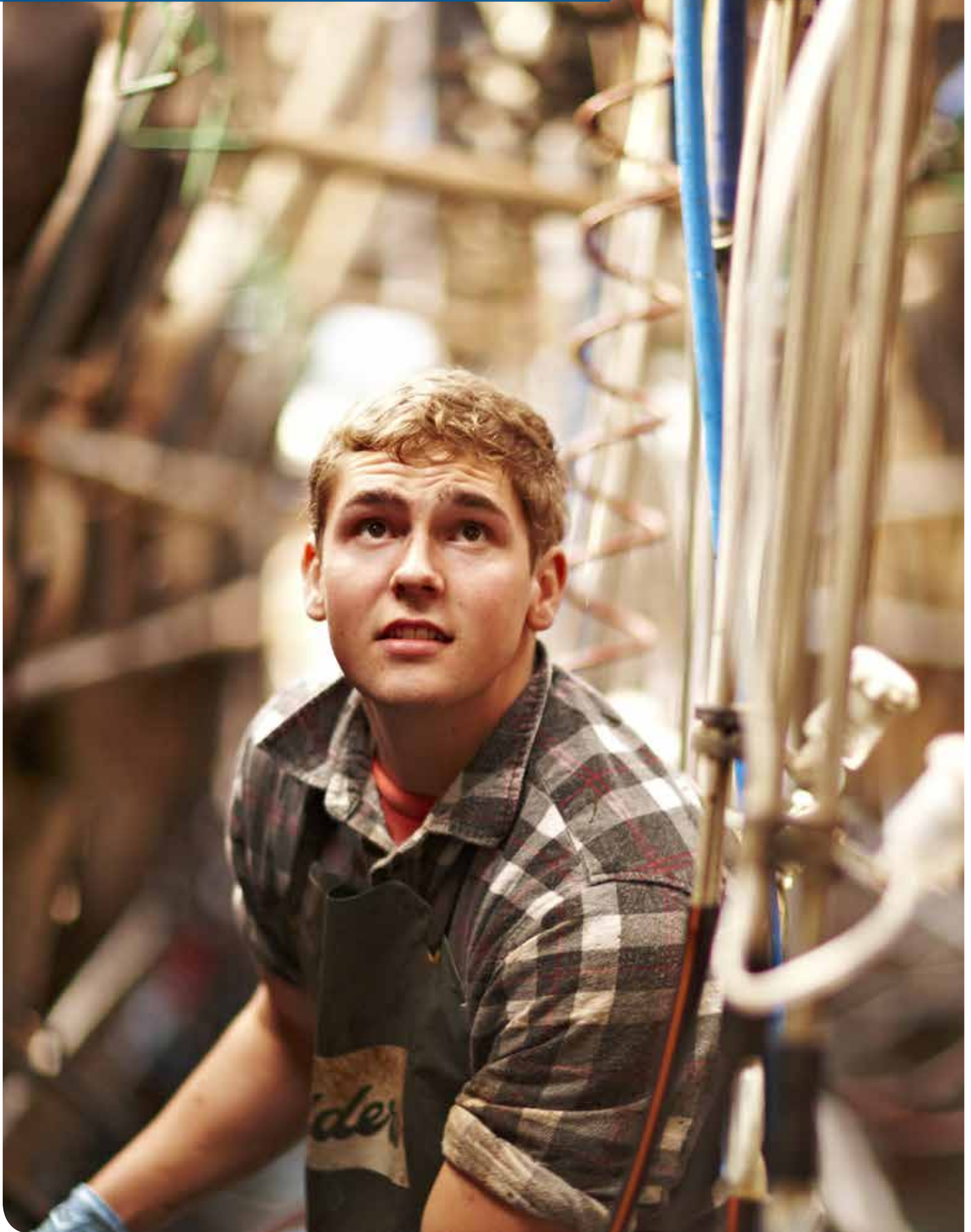
a further 0.7 t DM/ha being conserved. Sixty-four percent of energy in the cow's diet came from grazed pasture with 24% coming from concentrates.

It was a solid performance year in 2014/15 with the previous year being exceptional on many levels and this needs to be kept in mind when looking at this year's results.

Farmer confidence

Expectations for the 2015/16 season were variable as one third of farmers predicted an improvement in farm business returns and two-thirds expected no change or a deterioration in their business returns. Milk price was the main issue identified both for the short term (12 months) and longer term (5 years).

Farm monitor method



Farm monitor method

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

The method employed to generate the profitability and productivity data was adapted from that described in The Farming Game (Malcolm *et al.* 2005) and is consistent with previous Dairy Farm Monitor Project reports. Readers should be aware that not all benchmarking programs use the same methodology or terminology for farm financial reporting. The allocation of items such as lease costs, overhead costs or imputed labour costs against the farm enterprises varies between

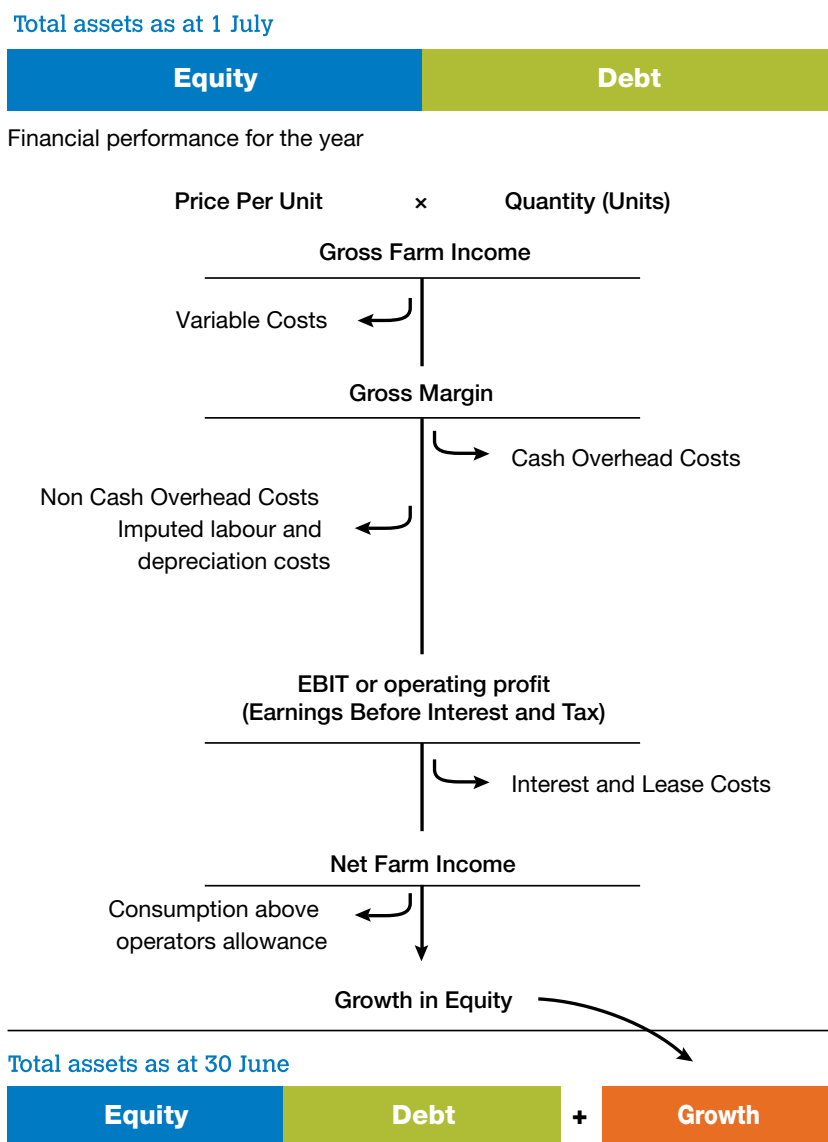
financial benchmarking programs. Standard dollar values for items such as stock and feed on hand and imputed labour rates may also vary. For this reason, the results from different benchmarking programs should be compared with caution.

Figure 1 demonstrates how the different farm business economic terms fit together and are calculated. This has been adapted from an initial diagram developed by Bill Malcolm. The diagram shows the different profitability measures as

costs are deducted from total income. Growth is achieved by investing in assets which generate income. These assets can be owned with equity (one's own capital) or debt (borrowed capital). The amount of growth is dependent on the maximisation of income and minimisation of costs, or cost efficiency relative to income generation.

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

Figure 1 Dairy farm monitor project method



Gross farm income

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

Variable costs

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

Overhead costs

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

Earnings before interest and tax

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

Net farm income

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

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

Return on assets and return on equity

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

Return on assets indicates the overall earning of the total farm assets, irrespective of capital structure of the business. It is EBIT or operating profit expressed as a percentage of the total assets under management in the farm business, including the value of leased assets. Earnings before interest and tax expressed as a return on total assets is the return from farming.

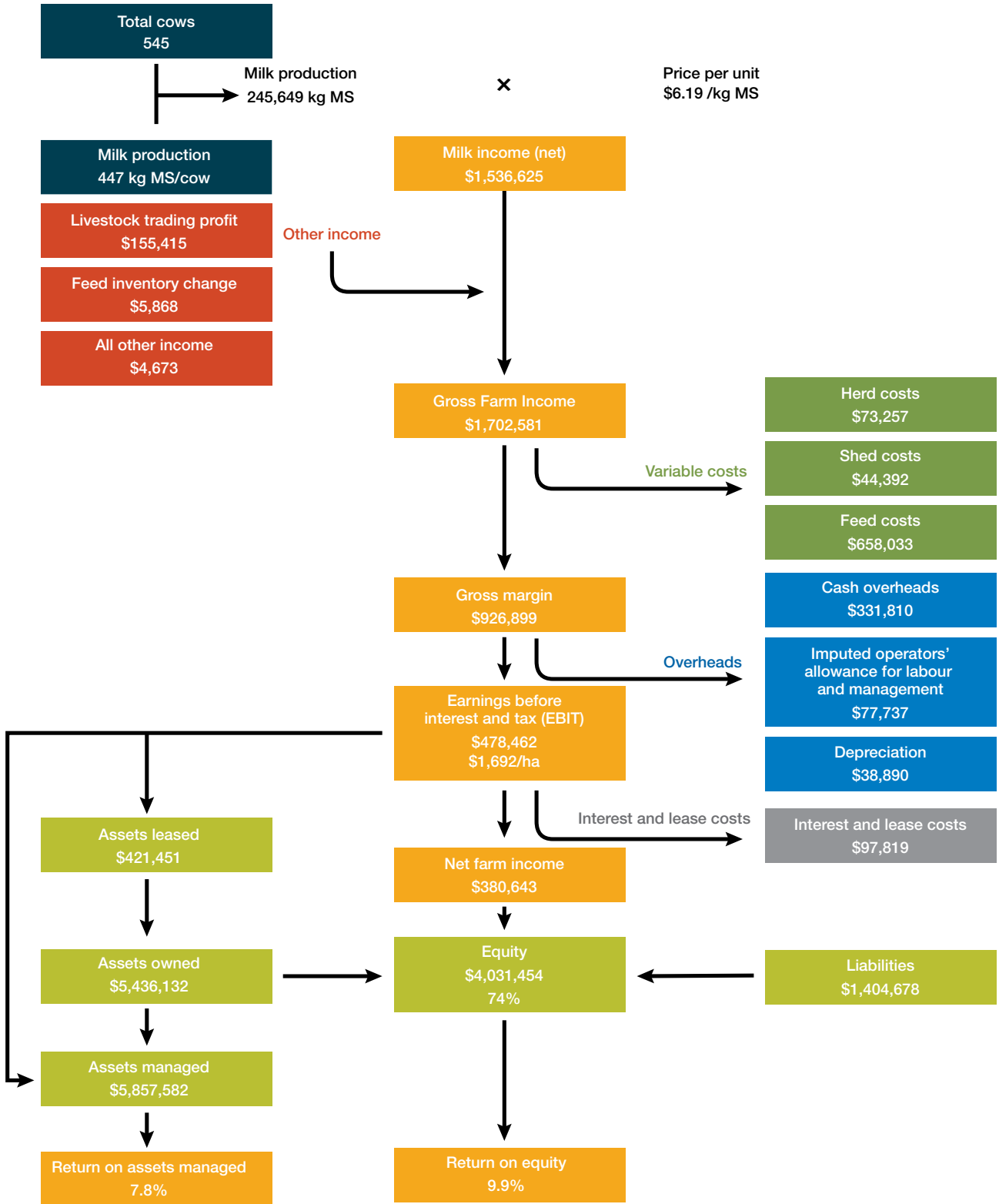
There is also a further return to the asset from any increase in the value of the assets over the year, such as land value. If land value goes up 5% over the year, this is added to the return from farming to give total return to the investment. This return to total assets can be compared with the performance of alternative investments with similar risk in the economy. Return on assets is sometimes referred to as return on capital. The return on equity including capital appreciation is reported in Appendix Table 1.

In Figure 1, total assets are visually represented by debt and equity. The debt: equity ratio or equity percent of total capital varies depending on the detail of individual farm business and the situation of the owners, including their attitude towards risk.

Return on equity measures the owner's rate of return on their own capital investment in the business. It is net farm income expressed as a percentage of total equity (one's own capital). The Dairy Farm Monitor Project reports return on equity with and without capital appreciation. This is to distinguish between productivity gains (return on equity without capital appreciation) and capital gains (return on equity with capital appreciation).

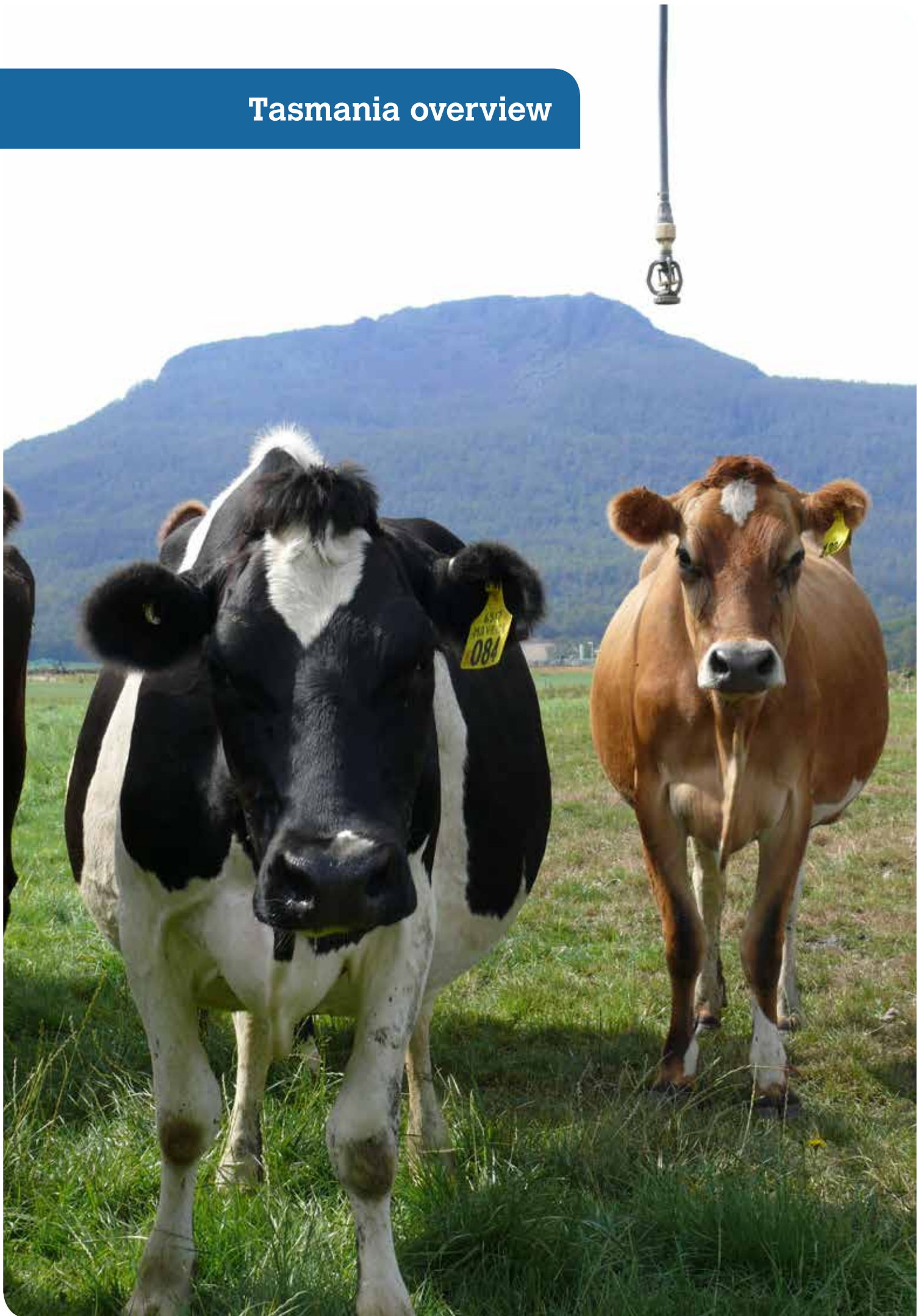
Figure 2 Dairy farm monitor project method profit map – state average data¹

All farms 30



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

Tasmania overview



Tasmania overview

In 2014/15, Tasmania produced a record high production of 891 million litres of milk, a 10% increase on the previous year's milk production.

The number of registered dairy farms in Tasmania increased from 435 to 440 in 2014/15. The majority of the farms are located in the higher rainfall (>1000 mm) regions of Tasmania along the northern coastline from Marrawah in the west to Pyengana in the east. There are a small number of farms on King Island and in the lower rainfall regions of the northern midlands and southern Tasmania.

Tasmania has a ryegrass dominant, pasture-based dairy industry with feeding systems ranging from very low input to high input systems. Peak pasture growth occurs in spring – for many farms this accounts for

two-thirds of pasture growth for the season. Rainfall in Tasmania tends to be winter dominant.

Tasmania retains a seasonally based calving pattern with the majority of cows calved in spring but there are increasing numbers of farms that also calve some cows in autumn. Many Tasmanian dairy farms now use cross-breeding in their herds.

Thirty farms provided data for the 2014/15 Tasmanian Dairy Farm Monitor report, 21 of these farms had participated in 2013/14 and nine are new participants. The approximate location of the participating farms is shown in Figure 3.

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



2014/15 seasonal conditions

Rainfall in 2014/15 was below average for Tasmania but despite this, good pasture consumption was achieved along with a record state milk production.

The majority of Tasmanian dairy farms received below average rainfall in 2014/15, as shown in Figure 4. Combined with lower annual rainfall, monthly rainfall patterns did not follow their monthly long term trend, with the most noticeable deviation occurring in early spring (Figure 5). The financial year began with average winter conditions followed by a dry early spring which was concerning for many farmers. However, rainfall in mid-spring created good pasture surplus for conservation, and farmers were able to increase their fodder reserves. Numerous rainfall events occurred

over summer but the quantity of rain received was low. Irrigated pastures benefited from these summer rainfall events as they assisted in maximising pasture growth rates. Rainfall events continued through autumn with only a slight dry period in April.

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

The 2014/15 season began with mild winter conditions with adequate rainfall going into spring. There was a dry period in spring but good rainfall in late spring and early summer meant adequate silage and hay was able to be conserved. This was also assisted by surplus carried over from the 2013/14 season. While there were regular rainfall events throughout the year, overall rainfall was below average (Figure 5).

Figure 4 2014/15 Annual rainfall and long term average rainfall

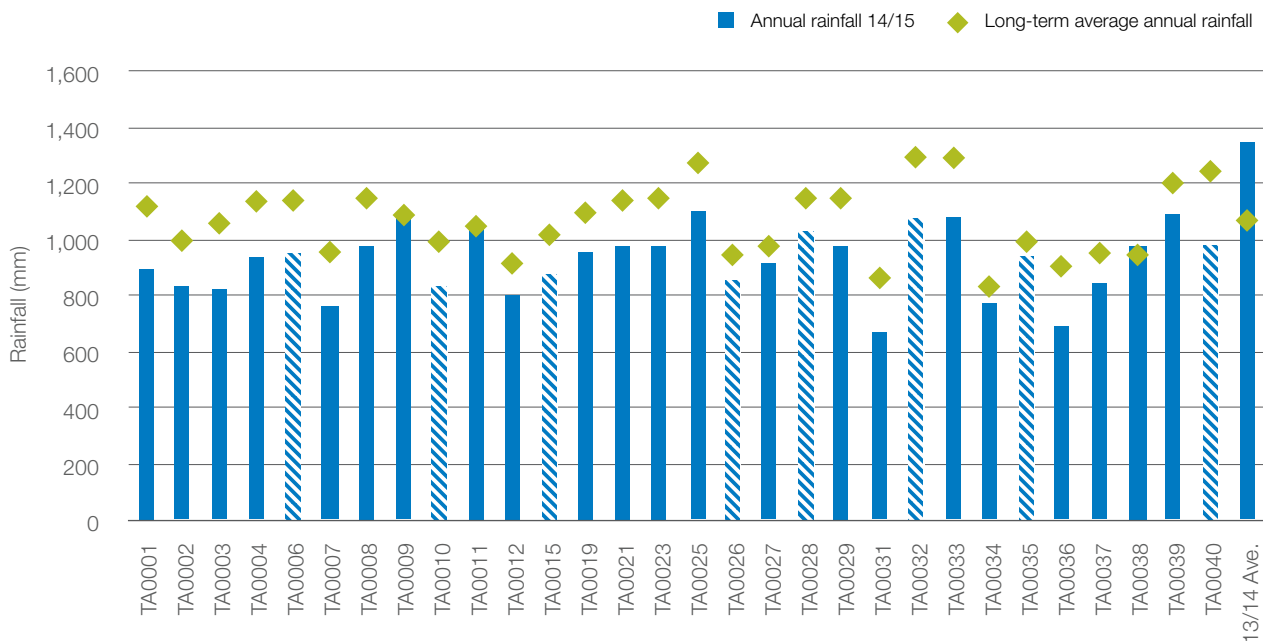
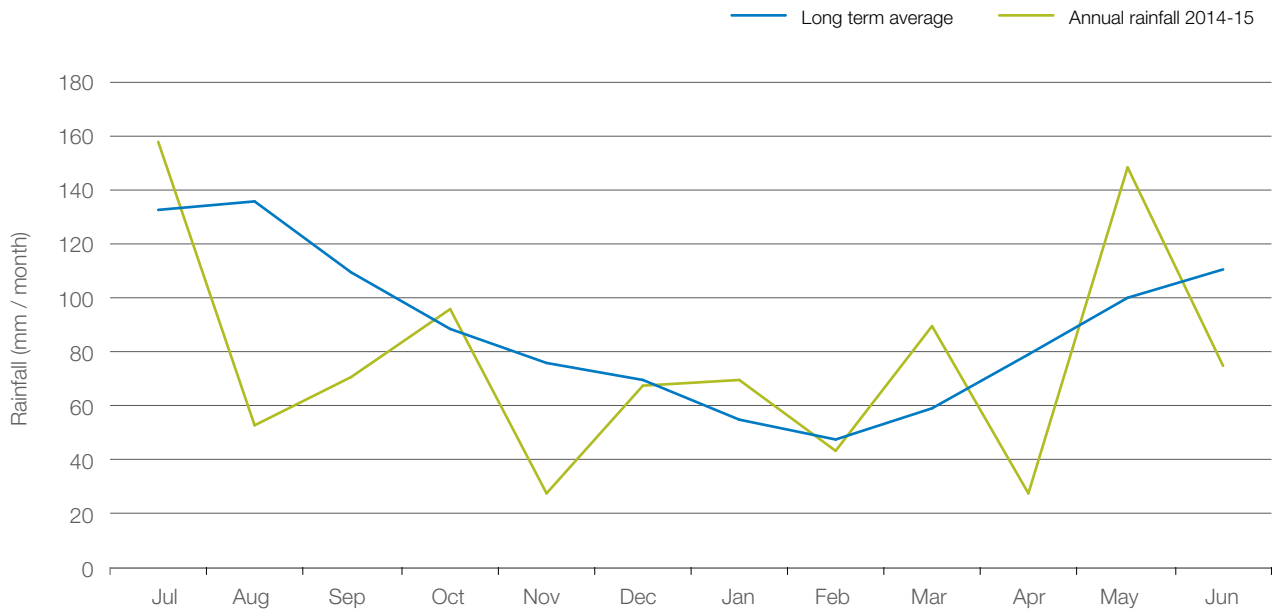


Figure 5 2014/15 monthly rainfall compared to long term monthly average



Statewide performance

Thirty farms provided data for the Tasmanian Dairy Farm Monitor Project. The average herd size of these farms was 545 cows with a stocking rate of 2.1 cows per usable hectare.

This year saw an increase in average herd size from 502 cows in 2013/14 to 545 cows. The stocking rate remained at 2.1 cows per usable hectare.

Rainfall was lower than in 2013/14 as was the amount of water used.

Total usable area increased by 20 hectares and there was also an increase in milk sold per cow and per hectare by 22 kg MS and 30 kg MS respectively. Milk price decreased by almost 10% on the previous year.

Labour efficiency per kg MS increased by 8.7% across the state.

Table 1 presents the average of some farm characteristics for the state. Further details can be found in the Appendix Table 2. Figure 6 provides a visual representation of the average farm financial performance. The blue colours represent income per kilogram of milk solids (kg MS) added vertically to provide gross farm income. From gross farm income, the green variable costs can be subtracted to give the grey gross margin values. From the gross margin red/orange overhead costs can be subtracted to provide the yellow earnings before interest and tax. The legend for Figure 6 and the values for category can be found in Table 2.

Gross farm income

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

While Figure 6 shows how milk income dominates gross income forming 90% of total farm income. Livestock trading profit makes up 9.4% of the remaining income with feed inventory change and other farm income providing less than 1% of total farm income.

Table 1 Farm physical data – State overview

Farm physical parameters	Average
Number of farms in sample	30
Herd size (no. cows milked for at least 3 months)	545
Annual rainfall 14/15	924
Water used (irrigation + rainfall) (mm/ha)	1,084
Total usable area (hectares)	280
Stocking rate (milking cows per usable hectare)	2.1
Milk sold (kg MS/cow)	447
Milk sold (kg MS/ha)	924
Milk price received (\$/kg MS)	\$6.19
Labour efficiency (milking cows/FTE)	140
Labour efficiency (kg MS/FTE)	61,600

Variable costs

Variable costs are costs directly associated with production. Examples include animal health, contract services, supplementary feeding, agistment and pasture costs. Figure 6 shows the largest costs were purchased feed and agistment (seen as lime green). Home grown feed was the other major variable cost.

Variable costs were 3.6% higher than last year, predominantly due to increased purchased feed and agistment costs. Total feed costs, including home grown feed, purchased feed and agistment, accounted for 85% of total variable costs.

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

The statewide average gross margin was \$3.78/kg MS, a 18% decrease from 2013/14.

Overhead costs

Overhead costs or 'fixed costs' are relatively unresponsive to small changes in the scale of operation of a business. Examples include depreciation, administration, repairs and maintenance and labour. Imputed labour cost is an estimate of the cost of the time spent in the business by people with a share in the business such as the owner, the owner's family or a sharefarmer who owns assets in the business. The imputed labour cost is calculated as \$25 per hour of imputed labour performed by the owner operator, family members or sharefarmers with assets.

The average overhead cost this year was \$1.94/kg MS compared with \$2.14/kg MS in 2013/14. Total labour costs make up 58% of total overhead costs.

Figure 6 Average farm financial performance per kilogram of milk solids



Table 2 Average farm financial performance per kilogram of milk solids - statewide

Farm income and cost category	Tasmania
Income	kg MS
Feed inventory change	\$0.04
Other farm income	\$0.02
Livestock trading profit	\$0.65
Milk income (net)	\$6.19
Gross farm income	\$6.90
Variable costs	
Shed cost	\$0.20
Herd cost	\$0.29
Home grown feed cost	\$0.91
Purchased feed and agistment	\$1.74
Total variable costs	\$3.13
Gross margin	
per kilogram of milk solids	\$3.78
Overhead costs	
All other overheads	\$0.23
Repairs and maintenance	\$0.39
Depreciation	\$0.19
Employed labour	\$0.72
Imputed owner/operator and family labour	\$0.41
Total overhead costs	\$1.94
Earnings before interest and tax	
per kilogram of milk solids	\$1.84

Earnings before interest and tax

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

Average EBIT was lower across the state this year with an average of \$1.84/kg MS compared to \$2.44/kg MS in 2013/14. This was a decrease of 25%.

Return on assets and equity

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

The average return on assets for participants across the state was 7.8%, down from last year's 9.6%. The return on assets ranged from 0% to 21% (Figure 7 and Appendix Table 1).

Return on equity (ROE) is the net farm income (earnings before interest

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

The average ROE for the 30 farms was 9.9% in 2014/15 in contrast to 12.9% last year. Return on equity ranged from -0.9% to 25.7% (Figure 8).

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

Figure 7 Distribution of farms by return on assets

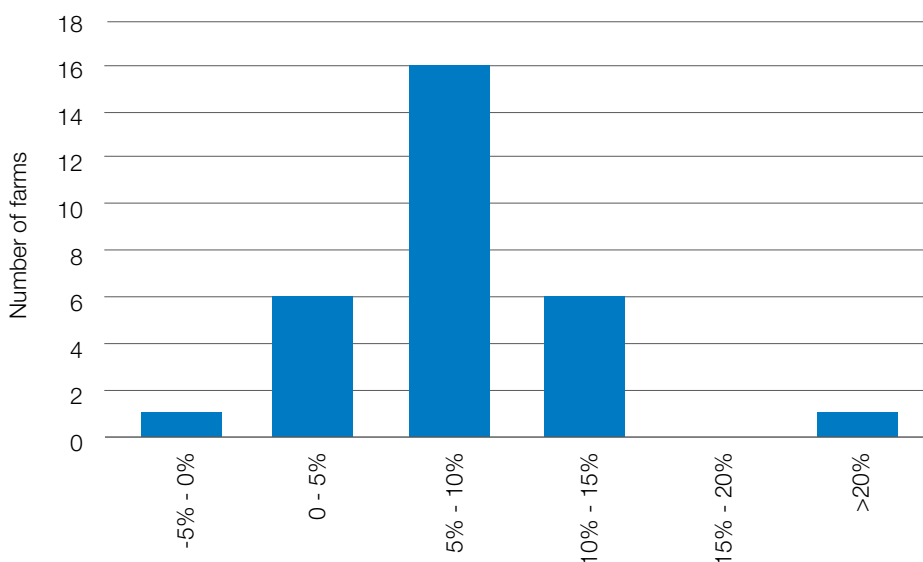
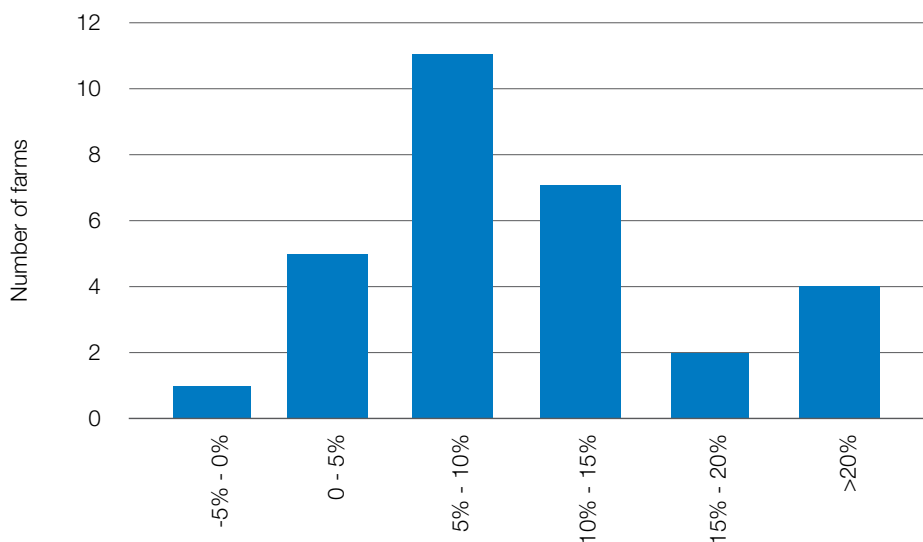


Figure 8 Distribution of farms by return on equity



Risk

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

Table 3 presents some key risk indicators. Refer to Appendix B 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.

Exposure to risk in business is entirely rational if not unavoidable. It is through managing risk that greater profits can be made. It is also the case that by accepting a level of risk in one area of business, a greater risk in another area can be avoided. Using the example of feed sources, dairy farmers are generally better at dairy farming than they are at grain production. Thus by allowing someone who is experienced in producing grain to supply them, they lessen the

production and other business risks as well as the financial risks they would have exposed themselves to by including extensive cropping in their own business. The trade-off is that they are in turn exposed to price and supply risks.

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

This year, all farms in the Dairy Farm Monitor project sourced at least some of their metabolisable energy (ME) from imported feeds and are therefore somewhat exposed to fluctuations in prices and supply in the market for feed. In 2014/15 the percentage of feed imported increased slightly from 28% in 2013/14 to 31%.

This year there was effectively no change in equity levels across the state with an average of 74%. Caution should be exercised when comparing equity between years as there has been a change of farms in the sample.

The cost structure ratio provides variable costs as a proportion of total costs. A lower ratio implies that overhead costs comprised a greater proportion of total costs that in turn indicates less flexibility in the

business. Table 3 shows that across the state for every \$1.00 spent, \$0.62 was used to cover variable costs. One hundred minus this gives the proportion of total costs that are overhead costs.

The debt services ratio shows interest and lease costs, as a proportion of gross farm income. The ratio of 6% this year is the same as last year. It indicates that on average farms repaid \$0.06 of every dollar of gross farm income to their creditors.

The benefit of taking risk and borrowing money can be seen when farm incomes yield a higher return on equity than on return on assets. In 2014/15, 17 of the 30 (or 57%) of participant farms received a return on equity which was greater than their return on assets. This was a decrease from 2013/14, where 21 of 31 farms (68%) recorded a higher return on equity figure.

The higher the risk indicator (or lower with equity %) in Table 3, the greater the exposure to the risk of a shock in those areas of the business. Further, the data in Appendix Tables 4 and 5 are in cost per kilograms of milk solids sold. This data set is best used as risk indicators, given it is measured against the product produced and sold currently and not the capital invested.

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

Table 3 Risk indicators - Statewide and by region

	Average
Cost structure (proportion of total costs that are variable costs)	62%
Debt services ratio (percentage of income as finance costs)	6%
Debt per cow	\$2,601
Equity percentage (ownership of total assets managed)	74%
Percentage of feed imported (as a % of total ME)	31%

Physical measures

Feed consumption

The contribution of different feed sources to the total ME consumed on the farm is presented in Figure 9. This includes feed consumed by dry cows and young stock. A cow's diet can consist of grazed pasture, harvested forage, crops, concentrates and other imported feeds.

Grazed pasture made up the majority of the diet with an average of 64% of the diet being derived from directly grazed pasture.

Concentrates supply the greatest proportion of ME of all the supplements fed, accounting for approximately one-quarter of the diets ME intake.

The proportions shown in Figure 9 for 2014/15 are very similar to those from 2013/14.

Appendix Table 3 provides further information on purchased feed.

The estimated average home grown feed consumed per milking hectare is shown in Figure 10. Both Figures 9 and 10 were estimated using DEDJTR's Pasture Consumption Calculator which is also available online at dairypastureconsumptioncalculator.com.au. Initially, this involves a calculation based on the total ME required on the farm, determined by stock numbers on the farm, liveweight, average distance stock walk to and from the dairy and milk production. Metabolisable energy imported from other feed sources is subtracted from the total farm ME requirements over the year to estimate for total ME produced on farm, divided into grazed and conserved feed depending on the quantity of fodder production recorded.

In 2014/15 total home grown feed consumed was 10.0 t DM/ha; a combination of harvesting by direct grazing (9.3 t DM/ha) plus conserving (0.7 t DM/ha). This was slightly higher than in 2013/14 with 9.0 t DM/ha consumed through direct grazing and 0.6 t DM/ha as conserved fodder.

Appendix Table 2 gives estimates of quantity of home grown feed consumed per milking hectare of sample farms across the state. The graph in Figure 9 accounts only for the consumption of pasture that occurred on the milking area whether by milking, dry or young stock.

Figure 9 Sources of whole farm metabolisable energy

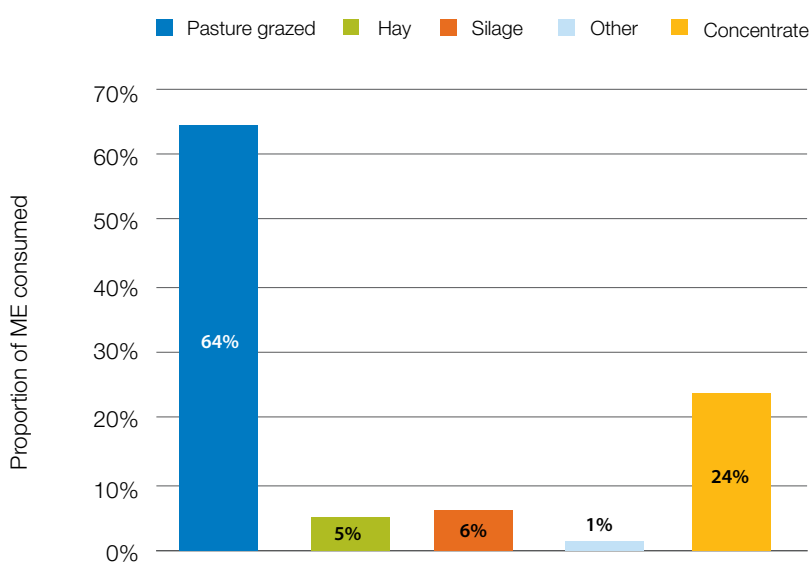
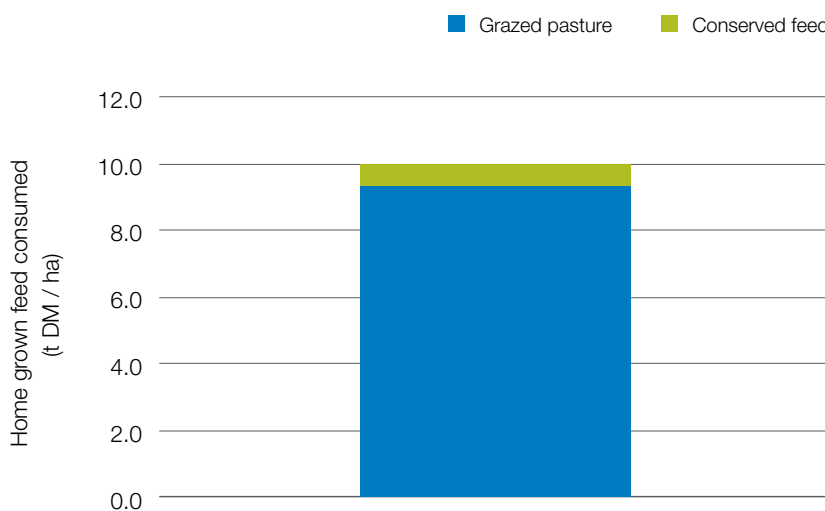


Figure 10 Estimated tonnes of home grown feed consumed per milking hectare



Fertiliser application

Figure 11 shows the average application rate of nitrogen, phosphorus, potassium and sulphur per hectare in 2014/15.

Application of phosphorus and sulphur was very similar between 2014/15 and the previous year but the amount of nitrogen and potassium applied increased by 16% and 20% respectively.

Farms in the top 25% (based on return on assets) applied almost 100 kg of nitrogen per hectare more

than average but application of other nutrients was very similar to average.

It should be noted that water availability, pasture species, soil type, pasture management, seasonal variation in response rates to fertilisers, variations in long-term fertiliser strategies plus other factors will all influence pasture growth and fertiliser application strategies. Details of these particular strategies are not captured as part of this project. Appendix Table 2 provides further information on fertiliser application.

Milk production versus calving pattern

Figure 12 shows the average monthly milk sales for all participant farms against the monthly distribution of calves born. Tasmanian farms have spring dominant calving patterns, with 80% of calves born between August and October.

Milk production generally peaks three months after peak calving, with milk production at the highest level in October and with another small peak in March in-line with the autumn calving period (Figure 12).

Figure 11 Nutrient application per hectare

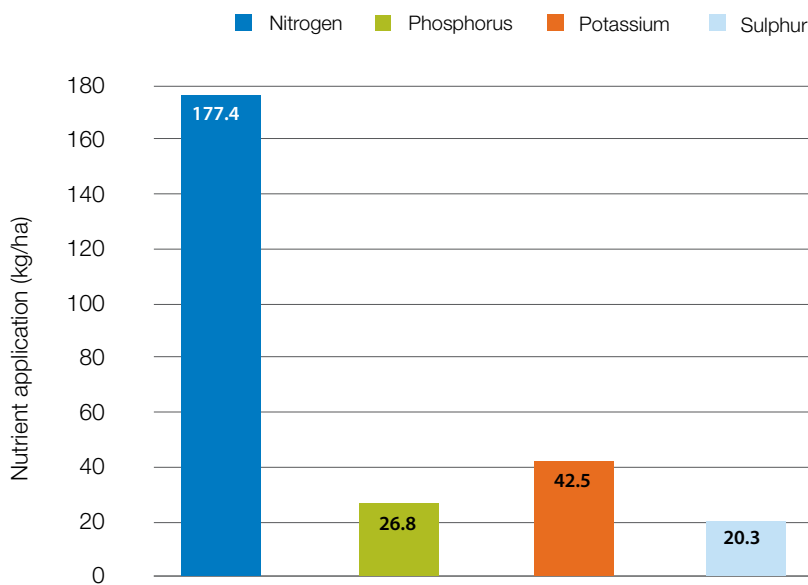
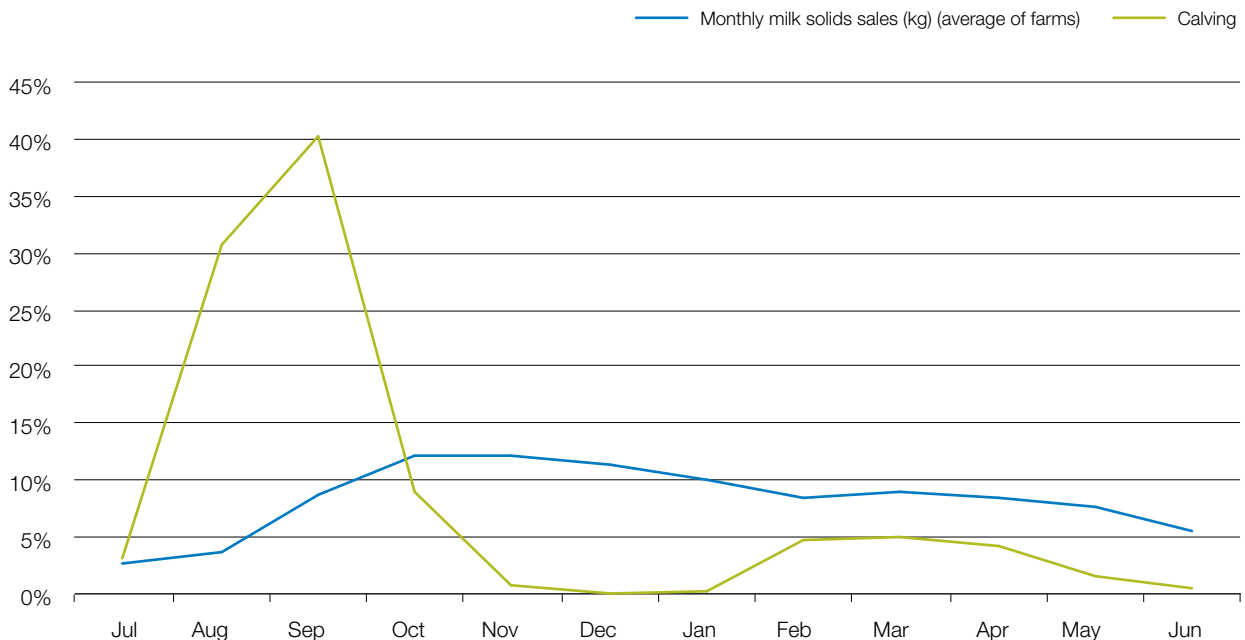
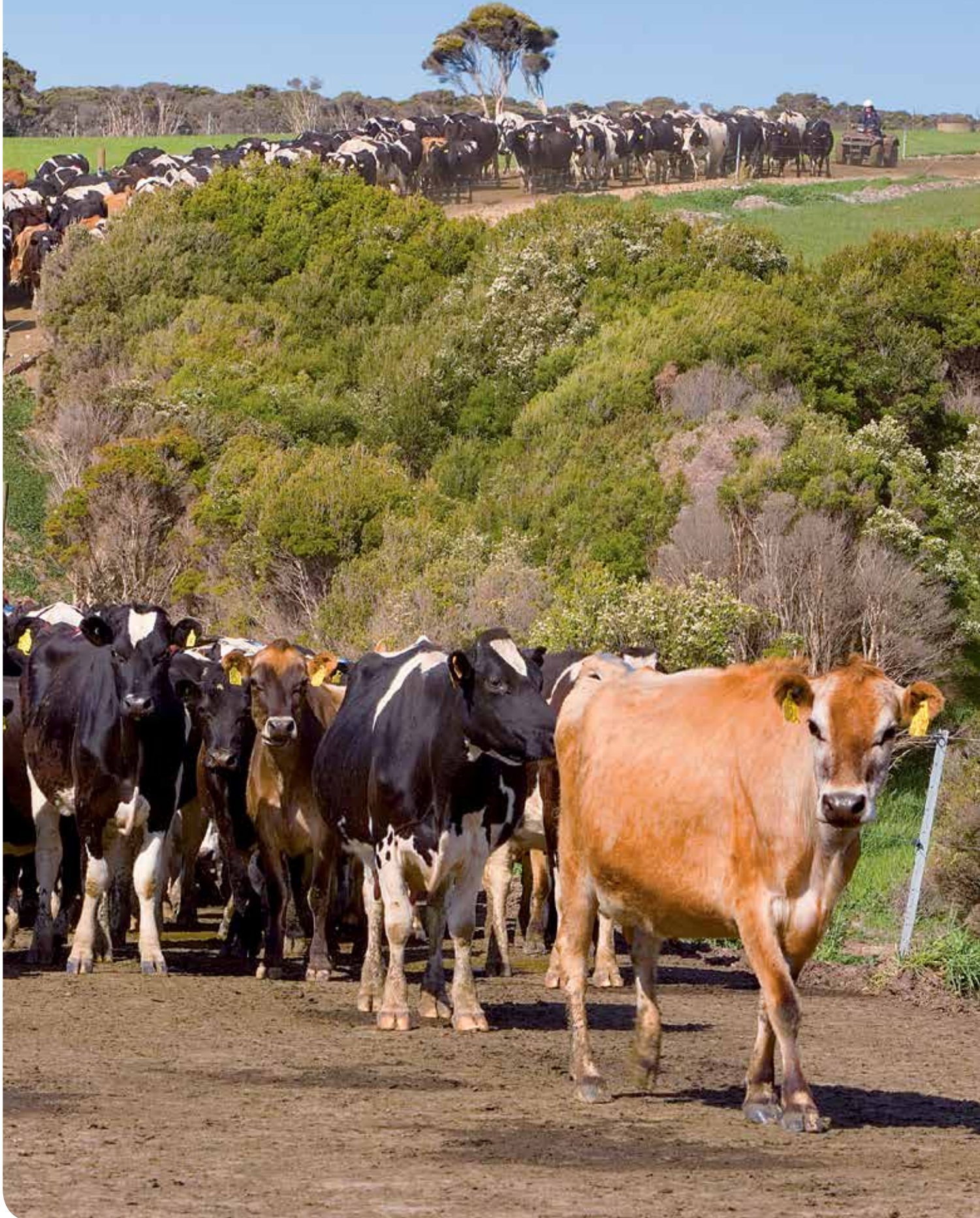


Figure 12 Monthly distribution of milk production versus calves born



Statewide performance



Whole farm analysis

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

This section of the report contains more detailed information about the range of key financial and physical parameters for individual farms.

The physical characteristics of the top 25% of farms (ranked by return on assets) generally lie within the middle 50% of the Tasmanian dataset. The physical characteristics of the top 25% performers only partly explain their ability to be more profitable. Caution must be taken when looking at these physical parameters in isolation.

The top 25% had similar total usable area and the same stocking rate as the Tasmanian average. Milk production per cow and per hectare were both higher for the top 25% than for the average. This was also a characteristic of the top performing group in 2013/14.

The top 25% had higher labour efficiency in terms of milk solids per full time equivalent (FTE) with 69,887 kg MS/FTE compared to the average at 61,600 kg MS/FTE (Table 4).

Gross farm income

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

Figure 13 shows the variation in gross income per kilogram of milk solids from \$5.50/kg MS to \$9.52/kg MS. Average gross farm income was \$6.90/kg MS which was 9% lower than last year. The top 25% of farms averaged \$7.44/kg MS.

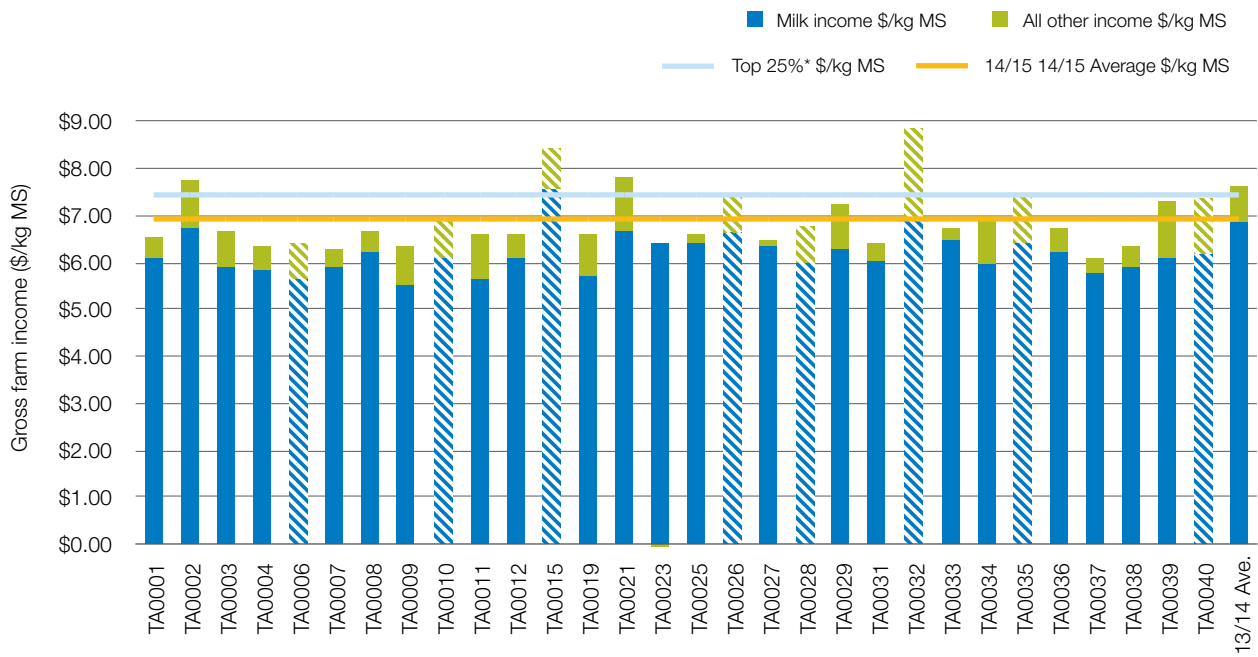
The decrease in gross farm income in 2014/15 was reflective of the lower milk price received this year. On average milk price received dropped 10% from \$6.86/kg MS in 13/14 to \$6.19/kg MS this year. The top 25% received a milk price of \$6.43/kg MS.

The small increase in livestock trading profit, emanating from higher livestock prices, did not cover the lower milk price received this year.

Table 4 Farm physical data

Farm physical parameters	Average	Q1 to Q3 range	Top 25% average
Annual rainfall 14/15 (mm)	924	835–981	943
Water used (irrigation + rainfall) (mm/ha)	1,084	7960–1,178	1,123
Total usable area (hectares)	280	179–332	285
Milking cows per usable hectare	2.1	1.5–2.4	2.1
Milk sold (kg MS/cow)	447	398–475	486
Milk sold (kg MS/ha)	924	726–1,027	1,032
Home grown feed as % of ME consumed	69%	63%–77%	70%
Labour efficiency (milking cows/FTE)	140	111–158	146
Labour efficiency (kg MS/FTE)	61,600	48,460–72,737	69,887

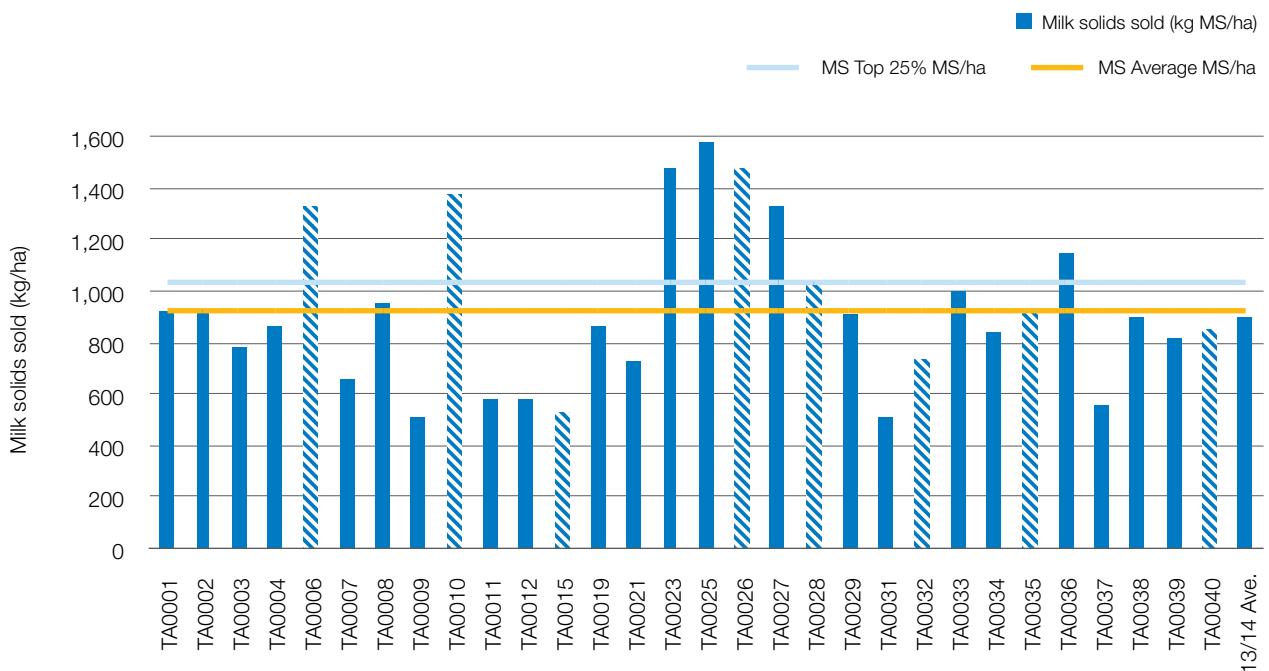
Figure 13 Gross farm income per kilogram of milk solids



Milk solids sold

Milk solids sold was 924 kg MS/ha this year, up 3% from 894 kg MS/ha sold in 2013/14 (Figure 14). The top 25% maintained their higher performance by selling 1,032 kg MS/ha this year, similar to last year at 1,026 kg MS/ha.

Figure 14 Milk solids sold per hectare



Variable costs

The separation of variable and overhead costs per kilogram of milk solids is shown in Figure 15. Variable costs are those costs that change directly according to the amount of output, such as herd, shed and feed costs.

The range of variable costs in Tasmania was \$2.04/kg MS to \$4.11/kg MS with an average of \$3.13/kg MS. This was a slight increase from the 2013/14 average of \$3.02/kg MS. In 2014/15, variable costs remained almost constant for the top 25% at \$2.98/kg MS compared with 2013/14 at \$2.99/kg MS.

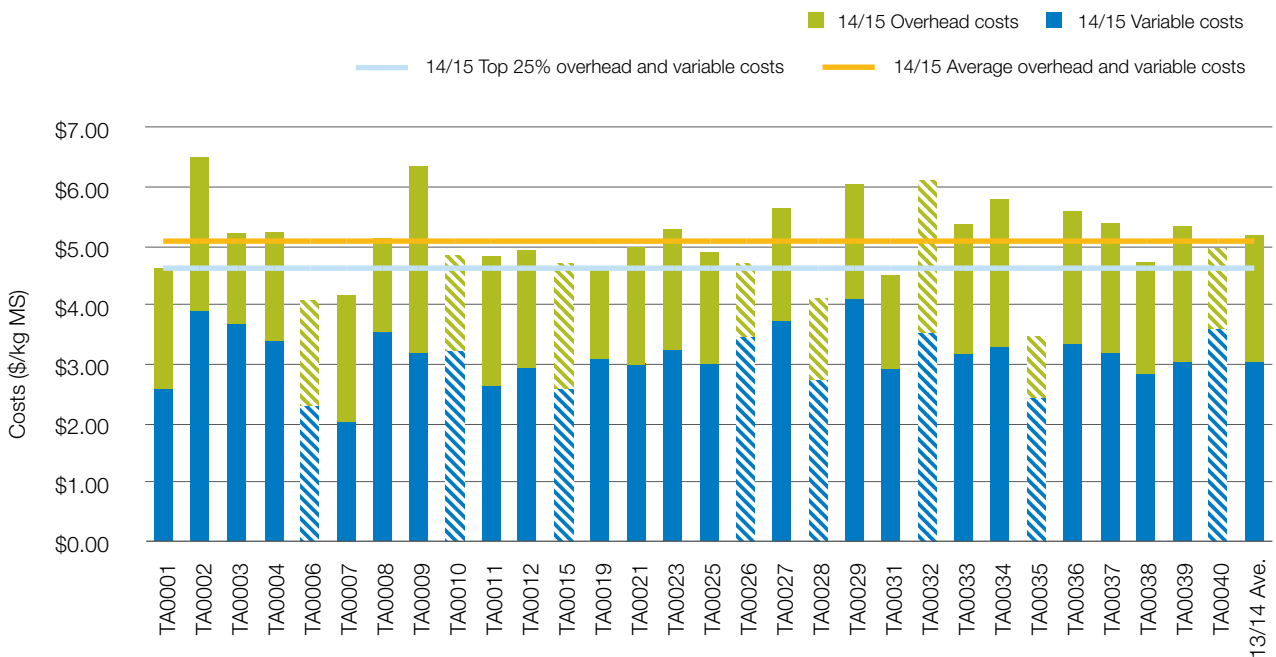
The largest variable cost in 2014/15 was attributable to feed costs accounting for 53% of total costs this year. Concentrates were the most expensive single feed cost category, costing farmers \$1.33/kg MS in 2014/15, up from \$1.22/kg MS the previous year. Farmers increased the quantity of concentrates fed to 1.4 t DM/cow, compared to 1.2 t DM/cow in 2013/14, while the average concentrate cost remained steady at \$430/t DM.

Appendix Table 4 shows the variable costs per kilogram of milk solids sold and the percentage breakdown can be found in Appendix Table 6.

Overhead costs

Figure 15 illustrates the overhead costs per kilogram of milk solids. This includes the cash overhead costs and non-cash overhead costs (for imputed owner/operator and family labour and depreciation). The ability to maintain lower overhead costs appears to be a key to performing in the top 25% for Tasmania. Total expenditure on overhead costs during 2014/15 varied greatly with a range between \$1.04/kg MS and \$3.13/kg MS, at an average of \$1.94/kg MS. The top 25% have a lower overhead cost at \$1.63/kg MS. Table 5 provides an indication of the range of overheads per kilogram of milk solids sold. The breakdown of overheads costs can be found in Appendix Table 5 and Appendix Table 7.

Figure 15 Whole farm variable and overhead costs per kilogram of milk solids



Cost of production

Cost of production provides 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. Considering changes in inventory is important to establishing the true costs to the business. The changes in fodder

inventory count for the net cost of feed from what was fed out, conserved, purchased and stored over the year. The loss in livestock inventory that occurs through livestock depreciation or reduced stock numbers over the year is also considered in cost of production.

Table 5 shows that the average cost of production was \$5.02/kg MS, which was a 1% decrease from last

year. The top 25% of farms had a cost of production of \$4.54/kg MS compared to \$4.53/kg MS in 2013/14.

Table 5 has imputed owner/operator and family labour and depreciation costs separated out, allowing owner/operators to distinguish their own cost of labour and where cash flow occurs in the business.

Table 5 Cost of production

Farm Costs	Tasmanian Average	Q1 to Q3 range	Top 25% average
Inventory changes			
Livestock trading loss	\$0.00	\$0.00–\$0.00	\$0.00
Feed inventory change	–\$0.04	–\$0.11–\$0.03	–\$0.08
Changes in inventory	–\$0.04	–\$0.11–\$0.03	–\$0.08
Variable costs (\$/kg MS)			
Herd costs	\$0.29	\$0.22–\$0.34	\$0.26
Shed costs	\$0.20	\$0.14–\$0.23	\$0.13
Purchased feed and agistment	\$1.74	\$1.38–\$2.06	\$1.72
Home grown feed cost	\$0.91	\$0.71–\$1.00	\$0.88
Total variable costs	\$3.13	\$2.85–\$3.44	\$3.41
Overhead costs (\$/kg MS)			
Rates	\$0.04	\$0.02–\$0.04	\$0.03
Registration and insurance	\$0.02	\$0.00–\$0.02	\$0.01
Farm insurance	\$0.07	\$0.03–\$0.09	\$0.05
Repairs and maintenance	\$0.39	\$0.28–\$0.46	\$0.35
Bank charges	\$0.01	\$0.00–\$0.01	\$0.00
Other overheads	\$0.10	\$0.05–\$0.12	\$0.10
Employed labour cost	\$0.72	\$0.45–\$0.81	\$0.60
Total cash overheads	\$1.34	\$1.09–\$1.62	\$1.14
Depreciation	\$0.19	\$0.09–\$0.21	\$0.14
Imputed owner/operator and family labour	\$0.41	\$0.19–\$0.57	\$0.35
Total overhead costs	\$1.94	\$1.60–\$2.19	\$1.63
Total cost of production	\$5.02	\$4.65–\$5.38	\$4.54

Break-even price required

The break-even price required for milk is calculated as the cost of production per kilogram of milk solids sold less any other sources of income such as livestock trading profit or feed inventory gain. By accounting for all costs and other sources of income, the break-even price required allows for a direct comparison to the price received for the main output of the business, milk. The difference between the

break-even price required and the price received is the earnings before interest and tax (EBIT) per unit.

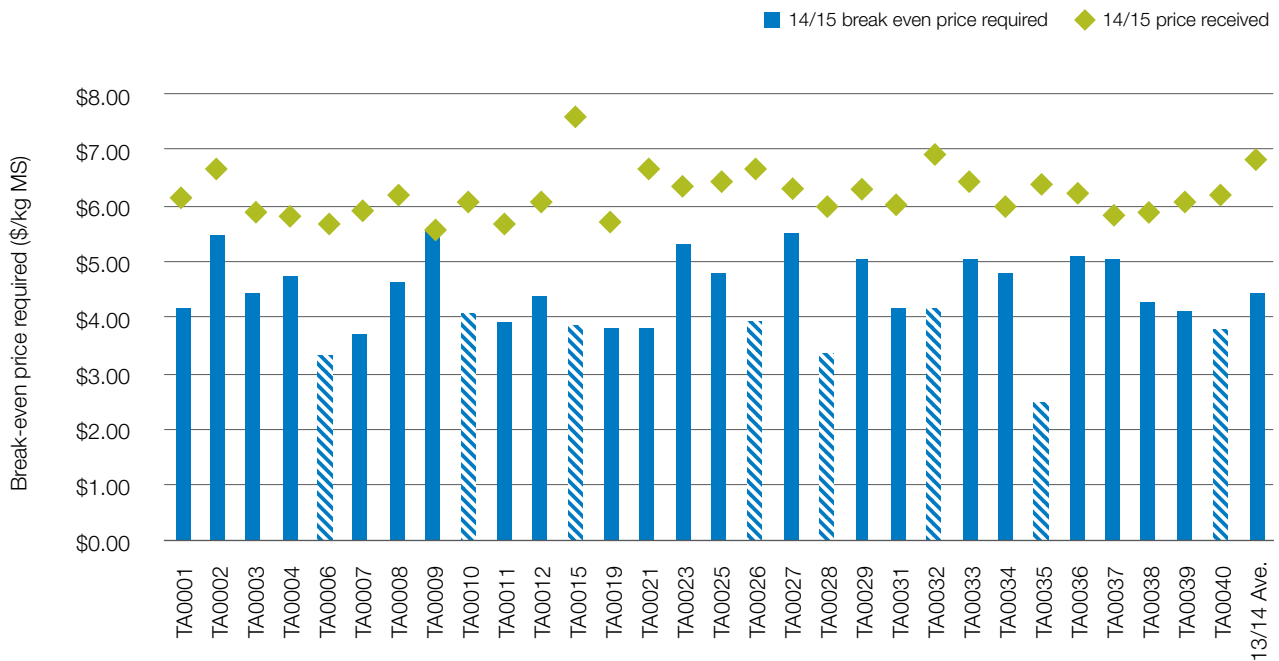
Figure 16 shows that the break-even price required varied from \$2.47/kg MS to \$5.56/kg MS. The average break-even milk price required of \$4.36/kg MS was lower than the \$4.44/kg MS recorded last year.

Milk price was 10% lower this year with the average price for

participants at \$6.19/kg MS compared to \$6.87/kg MS last year.

The top 25% on average maintained tighter control on the variable costs compared to the average. Overhead costs were lower in all areas but particularly in employed labour cost. The ability of the top 25% to control their costs is one of the key factors to their better than average performance in 2014/15.

Figure 16 Break even price required per kilogram of milk solids sold



Earnings before interest and tax

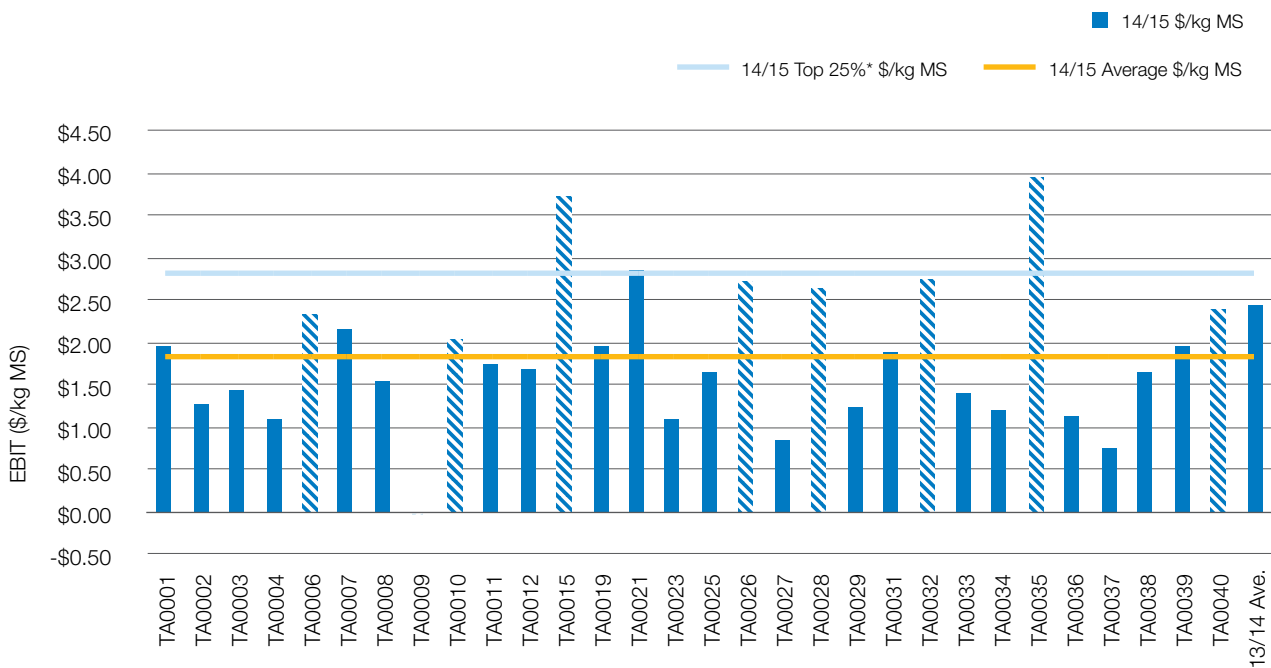
Earnings before interest and tax is gross farm income less variable and overhead costs.

On average, EBIT was \$1.84/kg MS in comparison to \$2.44/kg MS in 2013/14 (Figure 17). This change from last year was also observed

with the top 25% of farms recording an EBIT of \$2.82/kg MS compared to \$3.14/kg MS in 2013/14.

While the lower milk price was a large contributing factor to the decreased EBIT this year there were also increases in some costs, in particular purchased feed and agistment costs.

Figure 17 Whole farm earnings before interest and tax per kilogram of milk solids sold



Return on assets and equity

Return on assets is calculated as the earnings before interest and tax expressed as a percentage of total assets. It is an indicator of the earning power of total assets managed, irrespective of capital structure (i.e. debt or equity).

The variation between farms' return on assets (Figure 18) is indicative of the variation between farms' EBIT, except where those farms with a similar EBIT manage total assets of a different value. These results are a reflection of the total economic result on the farm.

The variation in the valuation of the total assets managed is reflected in the return on assets. There were a few farms in this year's sample with an EBIT higher than the top 25%.

However, the value of assets they managed was also relatively higher, and thus their return on assets was lower.

The average of 7.8% return on assets (shown by the orange line) was lower than last year's result of 9.6% (shown by the last blue bar). The top 25% return on assets was 13.1% (shown by the light blue line).

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

A return on assets becomes a lesser return on equity when the rate of interest on loans or lease on leased capital is greater than the return from the additional assets

managed. A negative return on equity will result when total interest and lease payments exceed the EBIT. When the percentage of return on equity increases compared to return on assets, it is the result of a higher return from the additional assets than the interest or lease rate. Most (29 out of 30) farms returned a positive return on equity in 2014/15, with an average of 9.9% compared to last year which was 12.9% (Figure 19). The top 25% group achieved 23.2% return on equity in 2013/14 whereas this year the top 25% recorded an average of 16.0%.

Average interest and lease costs were \$0.42/kg MS while for the top 25% they were \$0.33/kg MS. Average capital values can be seen in Appendix 8.



Figure 18 Return on assets

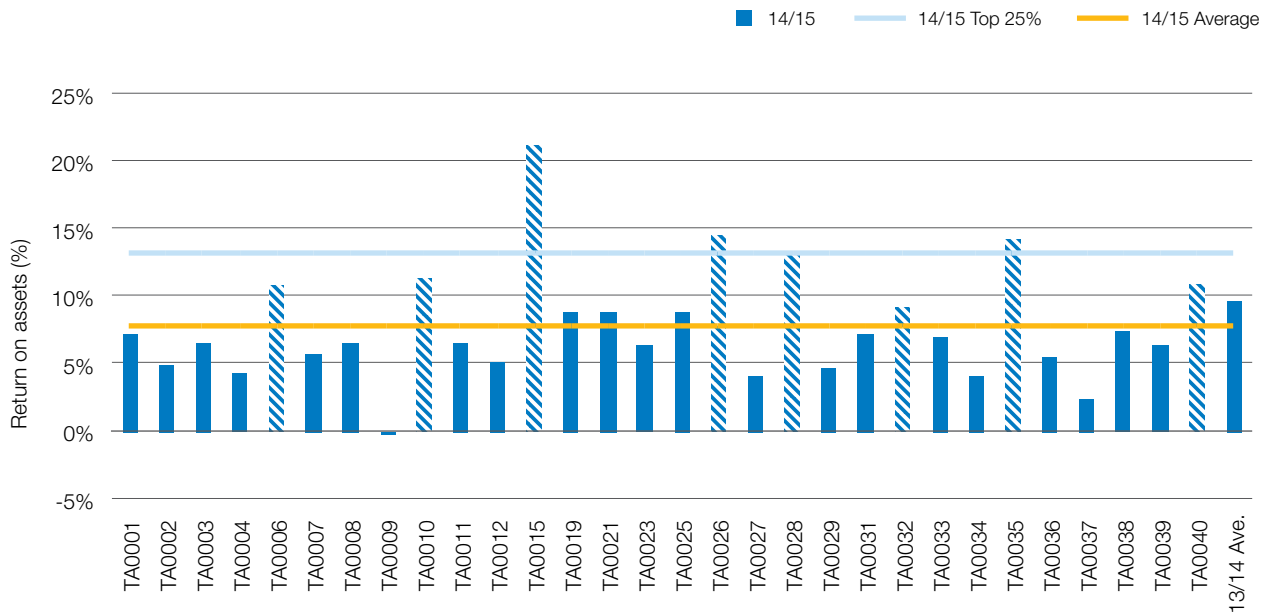
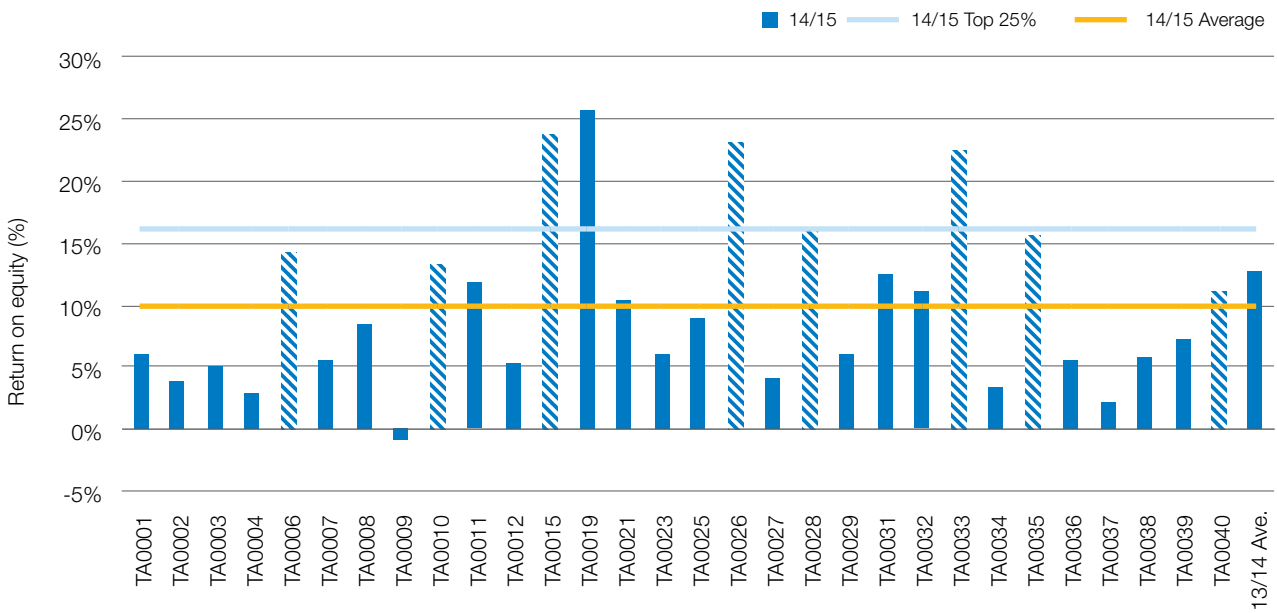


Figure 19 Return on equity



Feed consumption and fertiliser

Figure 20 shows that Tasmanian dairy farming systems were predominantly pasture based, with 26 farms sourcing at least half their energy requirement as grazed pasture.

Pasture consumption is calculated as the gap between the total metabolisable (ME) energy on farm for all stock classes and the ME provided from concentrates, silage, hay and other sources. A further description of the method used to calculate ME sources and feed consumption can be in Appendix B.

In Tasmania directly grazed pasture provided an average of 64% of ME consumed this year compared to 66% last year.

Concentrates provided the next greatest ME source averaging 24% of ME consumed, similar to last year. The intake of concentrates ranged from 0% to 43% of ME consumed which is the same as in 2013/14.

Figure 21 shows the estimated tonnes of dry matter of home grown feed consumed per milking hectare. Home grown feed can be grazed pasture (shown by the bottom lighter blue bars) and conserved fodder (shown by the top darker blue bars). Total home grown feed consumed ranged from 4.5 t DM/ha up to 16.2 t DM/ha. The average home grown feed consumed per milking hectare was 10.0 t DM. Pasture consumption on the home milking area was higher than in 2013/14.

The quantity of directly grazed pasture consumed was on average 9.3 t DM/ha with the home grown forage conserved averaging 0.7 t DM/ha.

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

Figure 20 Sources of whole farm metabolisable energy

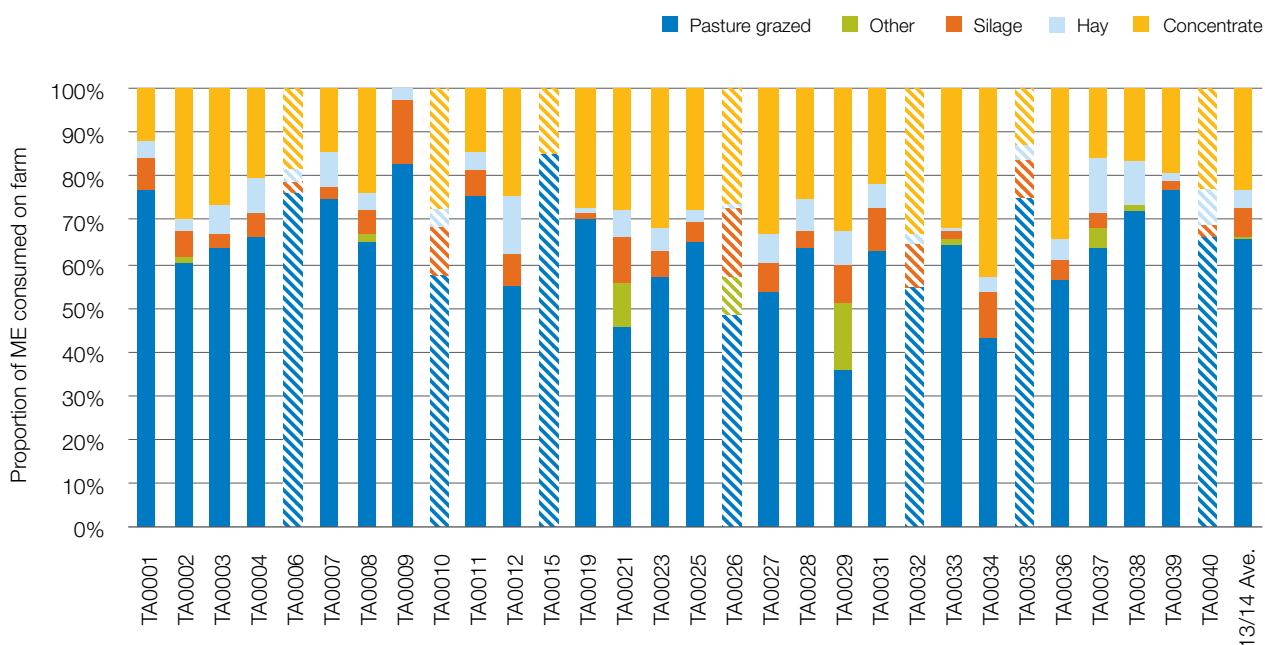
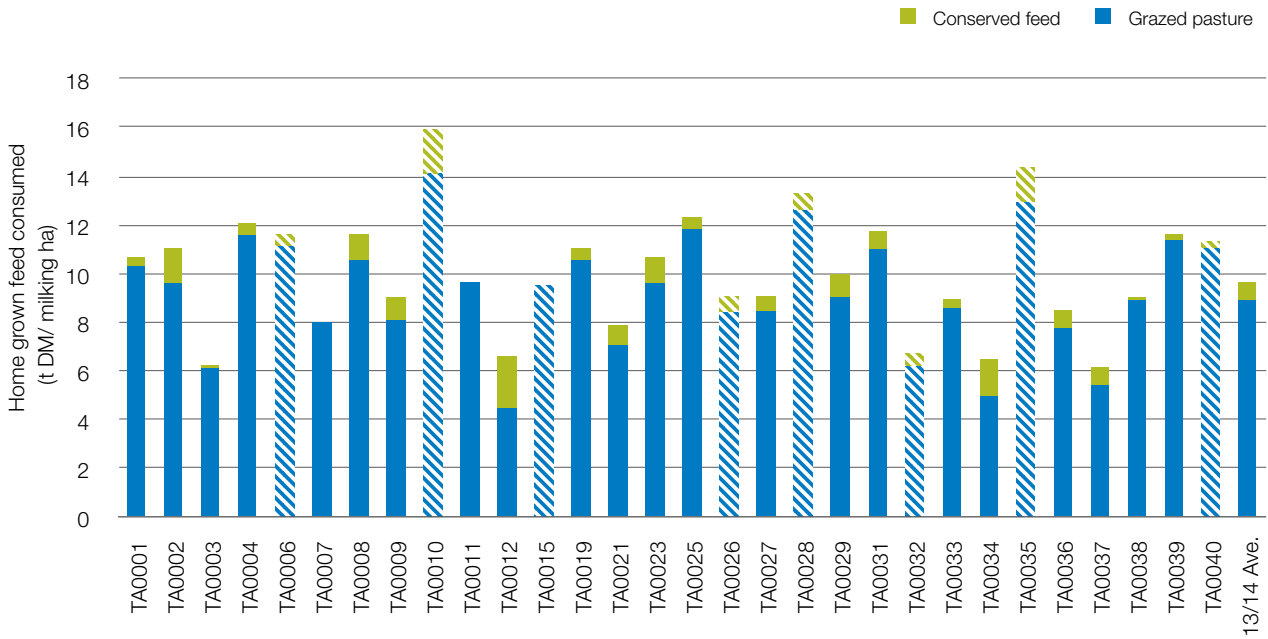


Figure 21 Estimated tonnes of home grown feed consumed per milking hectare



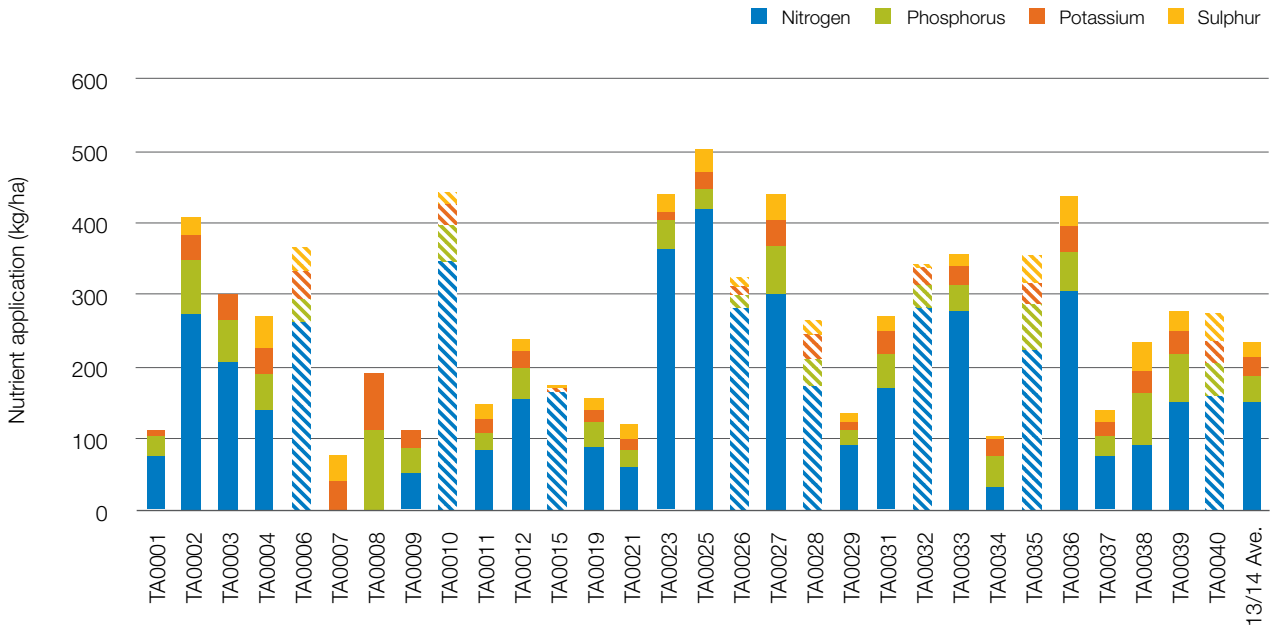
Fertiliser application

Farms in Tasmania used a wide range of fertilisers and fertiliser application rates, both between farms and with the mix of key macronutrients on individual farms (Figure 22). Nitrogen was the main nutrient applied varying from

0 kg/ha up to 421 kg/ha, with the average at 177 kg/ha. This was a 16% increase from 152 kg/ha used last year. While most farms used nitrogen, two farms did not.

The values for Figures 21 and 22 can be found in Appendix Table 2.

Figure 22 Nutrient application per hectare



Business confidence survey



Expectations and issues

Responses to this business confidence survey were made in July 2015 with regard to the 2015/16 financial year and the next five years to 2020/21. The data included in this section of the report has been collected from 13 out of the 30 farms that participated in the Tasmanian Dairy Farm Monitor project.

Expectation for business returns

Following a reasonable 2014/15 year, expectations for the coming season were divided with 31% of farmers predicting an improvement in farm business returns and 31% predicting no change in their business returns. Thirty-eight percent of farmers

expected a deterioration of their business returns (Figure 23). This is notably different to positive expectations recorded in 2013/14.

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

Price and production expectations – milk

Most of the participant farmers across the state were expecting their milk price to remain the same or decrease in 2015/16 (Figure 24).

Over 60% of farmers expected their milk production to increase in 2015/16 with the remainder expecting their milk production to remain the same. No farmers expected their milk production to be lower than the previous year.

Figure 23 Expected change to farm business returns in 2015/16

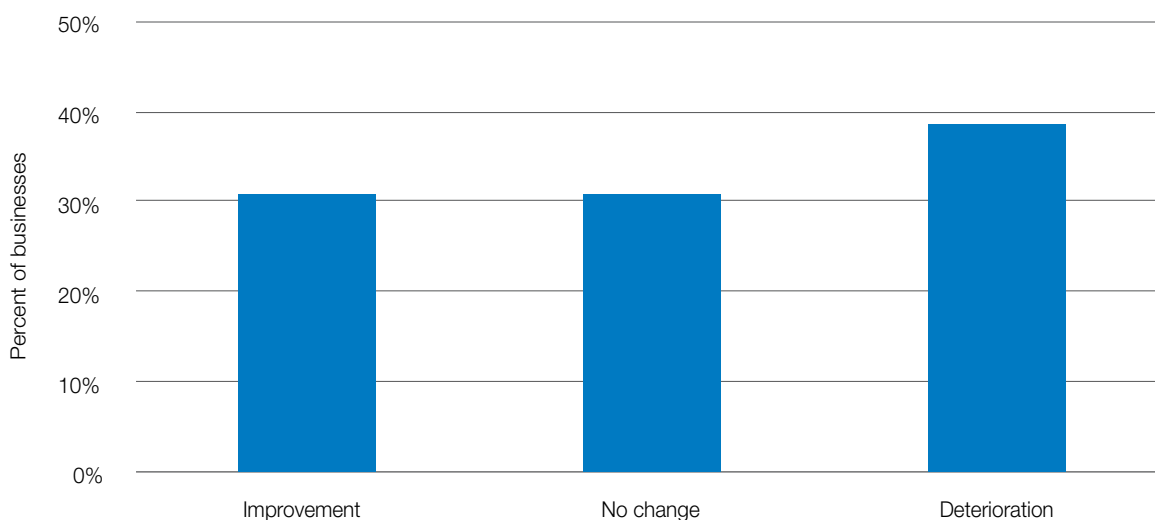
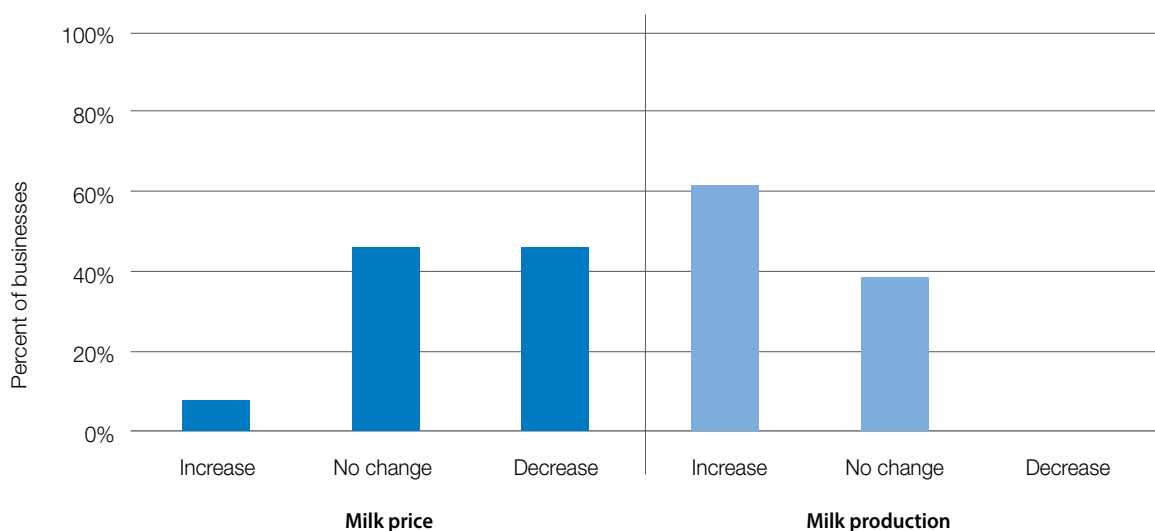


Figure 24 Expectations of prices and production of milk in 2015/16

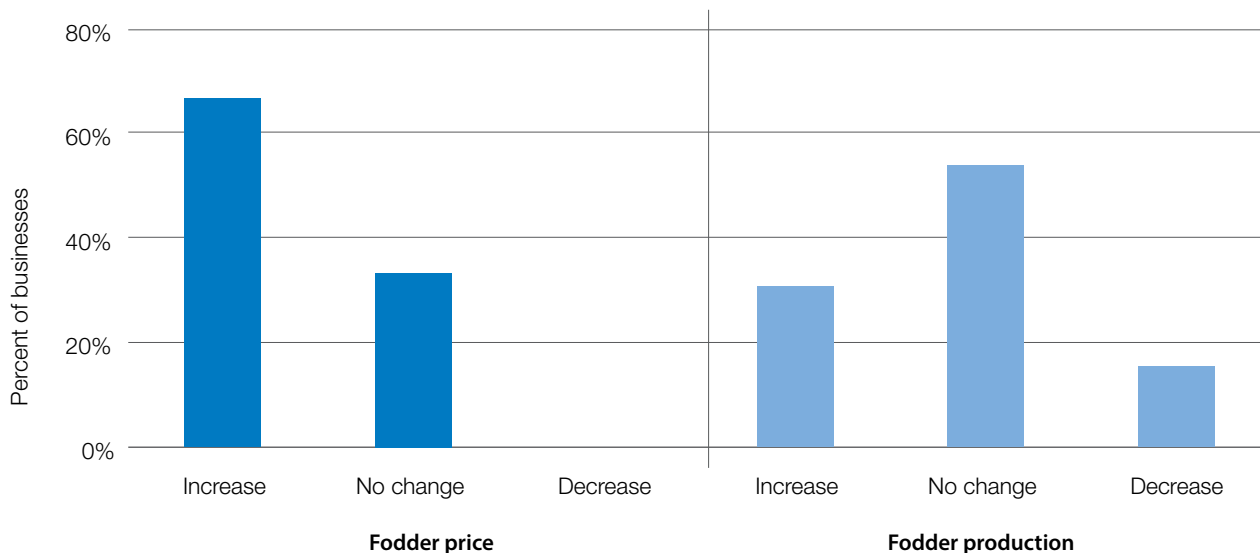


Price and production expectations – Fodder

The majority of participating farmers expected fodder prices to increase in 2015/16 (Figure 25). None of the participants predicted a decrease in fodder prices.

More than half of respondents indicated that they expected no change in fodder production for the coming year with 31% expecting an increase and 15% expecting a decrease.

Figure 25 Expectations of prices and production of fodder in 2015/16



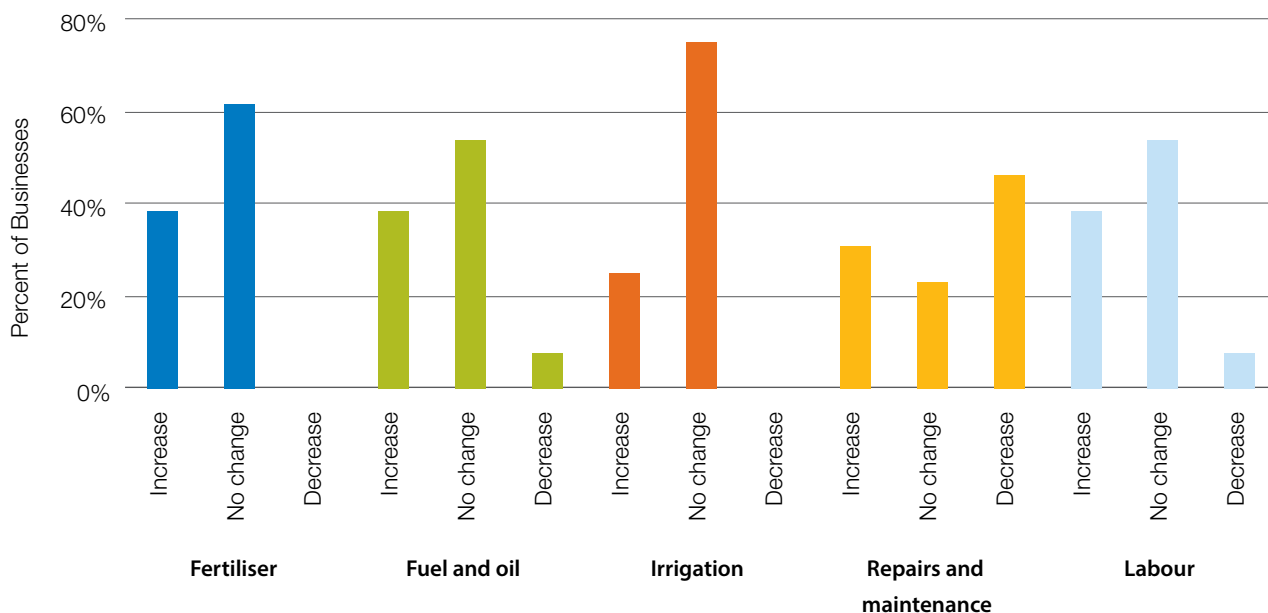
Cost expectations

Data presented in Figure 26 represent the expectations of costs for Tasmanian participants.

The majority of farmers in four out of the five categories expected input

costs to remain unchanged or increase. The exception was to repairs and maintenance with the majority of farmers expecting costs to decrease in this area.

Figure 26 Expectations of costs for the dairy industry in 2015/16



Major issues facing the dairy industry – the next 12 months

Figure 27 provides a summary of the ten key issues identified by participants for the coming 12 months.

Milk price (24%), labour (24%), consolidating farm system (18%), seasonal variability (18%), managing costs (18%) and profitability (6%) were the major concerns facing participants for 2015/16.

Other issues mentioned included risk management, irrigation expansion, animal welfare, public image and farm succession.

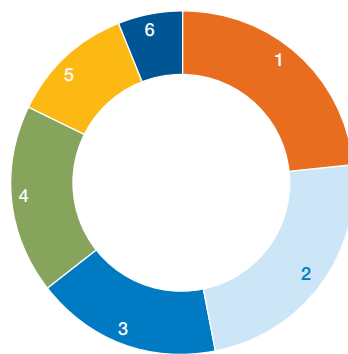


Figure 27 Major issues for individual businesses – 12 month outlook

- 1 Labour **24%**
- 2 Milk price **24%**
- 3 Consolidating farm systems **18%**
- 4 Seasonal variability **18%**
- 5 Managing costs **12%**
- 6 Profitability **6%**

Major issues facing the dairy industry – the next five years

Participants identified key issues for their business over the next five years (Figure 28). Milk price (29% of responses) was identified as the main issue. Consolidating the farm system in order to employ a manager or take on a share farmer was the aim of several respondents over the next 5 years. Twenty percent of participants also mentioned managing costs as an issue.

Profitability, debt, seasonal variability and increasing cow numbers were also mentioned.

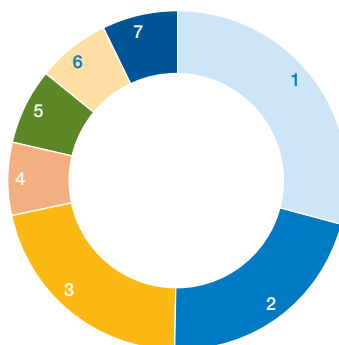


Figure 28 Major issues for individual businesses – 5 year outlook

- 1 Milk price **29%**
- 2 Consolidating farm systems **21%**
- 3 Managing costs **21%**
- 4 Increasing cow numbers **7%**
- 5 Seasonal variability **7%**
- 6 Debt **7%**
- 7 Profitability **7%**

Appendices



Table A1 Main Financial indicators

Farm number	Milk income (net)	All other income	Gross farm income	Total variable costs	Total overhead costs	Cost structure (Variable costs / Total costs)	Earnings Before Interest and Tax	Return on assets (excl. capital apprec.)	Interest and 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	%	%
TA0001	\$6.12	\$0.42	\$6.55	\$2.58	\$2.02	56%	\$1.95	7.3%	\$1.09	16.7%	\$0.85	6.1%	6.0%
TA0002	\$6.74	\$1.01	\$7.75	\$3.90	\$2.58	60%	\$1.27	4.9%	\$0.74	9.5%	\$0.53	3.8%	4.1%
TA0003	\$5.91	\$0.77	\$6.68	\$3.69	\$1.53	71%	\$1.45	6.5%	\$1.10	16.5%	\$0.35	5.0%	5.2%
TA0004	\$5.81	\$0.52	\$6.33	\$3.39	\$1.85	65%	\$1.09	4.3%	\$0.68	10.7%	\$0.41	3.0%	2.9%
TA0006	\$5.65	\$0.75	\$6.40	\$2.30	\$1.77	57%	\$2.33	10.8%	\$0.46	7.2%	\$1.87	14.2%	15.3%
TA0007	\$5.88	\$0.44	\$6.32	\$2.04	\$2.11	49%	\$2.18	5.7%	\$0.80	12.6%	\$1.38	5.5%	5.7%
TA0008	\$6.21	\$0.47	\$6.68	\$3.53	\$1.60	69%	\$1.55	6.6%	\$0.29	4.3%	\$1.27	8.4%	8.3%
TA0009	\$5.55	\$0.78	\$6.33	\$3.21	\$3.13	51%	-\$0.01	0.0%	\$0.21	3.4%	-\$0.22	-0.9%	-1.5%
TA0010	\$6.10	\$0.76	\$6.86	\$3.23	\$1.59	67%	\$2.04	11.3%	\$0.15	2.2%	\$1.89	13.3%	13.4%
TA0011	\$5.67	\$0.93	\$6.61	\$2.64	\$2.21	54%	\$1.76	6.6%	\$0.97	14.7%	\$0.79	11.8%	9.9%
TA0012	\$6.07	\$0.55	\$6.63	\$2.93	\$2.01	59%	\$1.69	5.1%	\$0.47	7.0%	\$1.22	5.3%	5.3%
TA0015	\$7.58	\$0.84	\$8.42	\$2.58	\$2.11	55%	\$3.72	21.2%	\$0.16	1.9%	\$3.57	23.7%	25.1%
TA0019	\$5.75	\$0.83	\$6.57	\$3.07	\$1.54	67%	\$1.97	8.8%	\$0.62	9.5%	\$1.34	25.7%	27.0%
TA0021	\$6.65	\$1.19	\$7.84	\$3.01	\$1.97	60%	\$2.85	8.9%	\$0.38	4.8%	\$2.48	10.4%	11.2%
TA0023	\$6.42	-\$0.05	\$6.37	\$3.27	\$2.00	62%	\$1.11	6.4%	\$0.12	1.8%	\$0.99	6.1%	7.1%
TA0025	\$6.43	\$0.15	\$6.58	\$3.02	\$1.89	61%	\$1.66	8.8%	\$0.00	0.0%	\$1.66	8.8%	10.4%
TA0026	\$6.64	\$0.79	\$7.43	\$3.46	\$1.25	73%	\$2.72	14.5%	\$0.43	5.8%	\$2.29	23.1%	23.2%
TA0027	\$6.35	\$0.15	\$6.49	\$3.73	\$1.91	66%	\$0.85	4.1%	\$0.00	0.0%	\$0.85	4.1%	5.5%
TA0028	\$6.00	\$0.76	\$6.76	\$2.74	\$1.37	67%	\$2.65	13.1%	\$0.31	4.5%	\$2.34	16.1%	17.0%
TA0029	\$6.28	\$0.98	\$7.26	\$4.11	\$1.93	68%	\$1.22	4.7%	\$0.48	6.6%	\$0.74	6.1%	6.8%
TA0031	\$6.06	\$0.34	\$6.40	\$2.93	\$1.59	65%	\$1.88	7.2%	\$0.64	10.1%	\$1.24	12.6%	12.4%
TA0032	\$6.91	\$1.95	\$8.85	\$3.53	\$2.58	58%	\$2.75	9.1%	\$0.60	6.8%	\$2.15	11.1%	11.6%
TA0033	\$6.45	\$0.27	\$6.72	\$3.17	\$2.15	60%	\$1.40	7.0%	\$0.77	11.4%	\$0.63	22.5%	21.8%
TA0034	\$5.99	\$1.01	\$7.00	\$3.29	\$2.49	57%	\$1.22	4.1%	\$0.29	4.1%	\$0.93	3.3%	3.4%
TA0035	\$6.42	\$1.00	\$7.42	\$2.43	\$1.04	70%	\$3.95	14.2%	\$0.12	1.6%	\$3.83	15.6%	15.3%
TA0036	\$6.25	\$0.47	\$6.73	\$3.37	\$2.20	60%	\$1.15	5.6%	\$0.00	0.0%	\$1.15	5.6%	5.6%
TA0037	\$5.81	\$0.32	\$6.12	\$3.18	\$2.20	59%	\$0.75	2.3%	\$0.00	0.0%	\$0.75	2.3%	2.3%
TA0038	\$5.89	\$0.46	\$6.36	\$2.83	\$1.89	60%	\$1.64	7.3%	\$0.63	9.9%	\$1.01	5.9%	10.0%
TA0039	\$6.07	\$1.25	\$7.31	\$3.05	\$2.30	57%	\$1.96	6.3%	\$0.18	2.4%	\$1.78	7.1%	7.2%
TA0040	\$6.18	\$1.18	\$7.35	\$3.60	\$1.36	73%	\$2.39	10.8%	\$0.06	0.9%	\$2.33	11.1%	11.2%
Average	\$6.19	\$0.71	\$6.90	\$3.13	\$1.94	62%	\$1.84	7.8%	\$0.42	6.2%	\$1.41	9.9%	10.3%
Top 25%*	\$6.43	\$1.00	\$7.44	\$2.98	\$1.63	65%	\$2.82	13.1%	\$0.29	3.9%	\$2.53	16.0%	16.5%

* The top 25% are bold and italicised

Table A2 Physical information

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	%	%
TA0001	176	147	1,098	407	2.3	396	917	4.8%	3.7%
TA0002	332	180	1,052	472	1.4	657	934	3.7%	3.4%
TA0003	560	490	892	1,190	2.1	370	786	4.3%	3.4%
TA0004	129	73	1,009	245	1.9	456	867	4.6%	3.4%
TA0006	87	87	1,171	269	3.1	430	1329	4.7%	3.6%
TA0007	186	165	909	440	2.4	281	664	4.3%	3.3%
TA0008	490	300	1,211	945	1.9	493	951	3.8%	3.3%
TA0009	92	73	1,142	160	1.7	297	517	4.4%	3.3%
TA0010	218	124	1,213	500	2.3	601	1378	4.1%	3.5%
TA0011	315	156	1,170	433	1.4	425	585	4.6%	3.6%
TA0012	330	282	856	465	1.4	413	582	4.6%	3.6%
TA0015	411	227	894	460	1.1	472	528	4.8%	3.5%
TA0019	170	110	953	360	2.1	409	866	4.4%	3.5%
TA0021	455	260	1,178	675	1.5	488	723	4.2%	3.3%
TA0023	300	300	1,312	940	3.1	472	1480	4.7%	3.8%
TA0025	240	240	1,478	805	3.4	470	1578	4.8%	3.8%
TA0026	246	246	1,141	770	3.1	472	1,478	4.9%	3.6%
TA0027	210	210	1,106	610	2.9	459	1334	4.6%	3.6%
TA0028	400	217	1,179	700	1.8	592	1036	4.2%	3.5%
TA0029	110	48	997	209	1.9	476	905	3.9%	3.3%
TA0031	757	236	788	930	1.2	420	516	5.2%	3.8%
TA0032	226	160	1,209	440	1.9	378	736	4.4%	3.5%
TA0033	143	142	1,273	403	2.8	355	1001	4.5%	3.5%
TA0034	241	149	979	340	1.4	594	838	3.3%	3.3%
TA0035	435	250	1,138	930	2.1	430	920	5.1%	3.9%
TA0036	176	176	865	500	2.8	405	1151	4.8%	3.9%
TA0037	260	223	932	375	1.4	385	555	4.1%	3.3%
TA0038	197	153	1,103	419	2.1	422	898	4.2%	3.2%
TA0039	241	152	1,248	515	2.1	381	814	4.4%	3.3%
TA0040	260	140	1,039	430	1.7	515	852	4.4%	3.4%
Average	280	191	1,084	545	2.1	447	924	4.4%	3.5%
Top 25%*	285	181	1,123	562	2.1	486	1032	4.6%	3.6%

* The top 25% are bold and italicised

Table A2 Physical information (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
TA0001	10.4	0.3	78%	78.4	9.2	26.1	0.0	109	43,364
TA0002	9.6	1.5	68%	272.6	38.1	74.6	23.2	78	50,947
TA0003	6.1	0.2	66%	207.1	36.8	57.8	0.0	172	63,561
TA0004	11.7	0.4	72%	140.2	34.8	49.6	43.6	123	56,315
TA0006	11.2	0.5	79%	262.5	38.8	32.0	32.9	110	47,190
TA0007	8.0	0.0	77%	0.0	42.6	0.0	35.5	157	44,094
TA0008	10.6	1.0	68%	0.0	78.6	112.2	0.0	152	74,925
TA0009	8.1	0.9	89%	53.1	24.3	36.5	0.0	117	34,776
TA0010	14.1	1.8	65%	346.8	28.8	51.1	16.1	90	53,841
TA0011	9.6	0.0	81%	86.1	16.7	23.2	19.9	117	49,972
TA0012	4.5	2.1	75%	153.5	21.6	46.8	15.0	129	53,309
TA0015	9.5	0.0	85%	164.9	5.7	0.0	3.7	98	46,330
TA0019	10.6	0.5	72%	87.3	13.5	37.2	15.5	201	82,349
TA0021	7.0	0.8	58%	60.1	16.3	23.3	20.5	108	52,476
TA0023	9.6	1.1	63%	363.4	11.3	39.9	26.6	159	75,269
TA0025	11.9	0.4	67%	420.9	19.9	28.3	32.2	155	72,831
TA0026	8.4	0.6	52%	282.4	11.2	18.7	11.2	264	124,449
TA0027	8.5	0.5	57%	302.3	36.0	64.3	38.7	158	72,455
TA0028	12.6	0.6	72%	173.5	33.6	38.3	19.2	137	80,923
TA0029	0.0	0.9	45%	93.6	10.9	19.1	13.6	191	90,946
TA0031	11.0	0.7	72%	170.2	30.0	50.2	20.4	165	69,336
TA0032	6.2	0.5	60%	283.1	23.6	31.7	3.0	135	51,030
TA0033	8.6	0.3	64%	276.8	25.7	37.2	18.2	128	45,621
TA0034	5.0	1.5	57%	34.4	23.6	42.7	1.2	89	52,844
TA0035	13.0	1.4	80%	224.0	29.3	63.6	37.1	214	91,868
TA0036	7.8	0.7	61%	303.8	33.2	58.5	40.8	150	60,651
TA0037	5.4	0.7	69%	77.5	20.1	26.3	17.0	104	40,071
TA0038	8.9	0.1	73%	92.2	31.1	72.7	38.6	114	47,956
TA0039	11.3	0.2	78%	151.6	28.3	68.6	28.6	144	54,842
TA0040	11.1	0.2	70%	159.6	31.1	45.6	38.1	123	63,468
Average	9.32	0.7	69%	177.4	26.8	42.5	20.3	140	61,600
Top 25%*	10.76	0.7	70%	237.1	25.3	35.1	20.2	146	69,887

* The top 25% are bold and italicised
** on usable area

Table A3 Purchased feed

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
TA0001	0.8	\$394	\$384			\$392	10.8	3.7	22%
TA0002	3.3	\$488		\$322	\$260	\$475	9.2	5.3	32%
TA0003	1.8	\$333	\$243	\$139		\$285	11.7	2.5	34%
TA0004	1.6	\$458		\$187		\$361	11.5	3.3	28%
TA0006	1.0	\$445		\$125		\$383	11.6	3.4	21%
TA0007	0.9	\$394	\$225	\$141		\$270	10.4	2.8	23%
TA0008	1.9	\$612		\$264	\$561	\$560	11.6	5.0	32%
TA0009	0.0					\$0	10.0		11%
TA0010	2.3	\$409	\$201	\$259		\$386	12.3	3.2	35%
TA0011	1.0	\$391		\$114		\$347	10.6	3.4	19%
TA0012	1.3	\$344		\$117		\$334	11.9	2.8	25%
TA0015	1.0	\$561				\$561	12.0	4.7	15%
TA0019	1.7	\$448		\$141		\$437	12.1	3.7	28%
TA0021	2.4	\$447	\$286	\$107	\$208	\$372	12.5	3.1	42%
TA0023	1.7	\$403		\$250		\$390	12.1	3.3	37%
TA0025	1.5	\$410	\$299			\$397	12.1	3.4	33%
TA0026	2.3	\$418	\$278	\$256	\$283	\$356	11.8	3.1	48%
TA0027	2.2	\$403	\$422	\$172		\$367	11.8	3.2	43%
TA0028	1.9	\$441				\$441	12.0	3.7	28%
TA0029	3.1	\$468	\$240	\$100	\$344	\$380	11.5	3.4	55%
TA0031	1.3	\$458		\$83		\$450	12.4	3.7	28%
TA0032	1.7	\$412	\$226	\$147		\$393	12.4	3.2	40%
TA0033	1.5	\$391	\$303	\$156	\$286	\$377	12.3	3.1	36%
TA0034	2.5	\$305				\$305	13.2	2.3	43%
TA0035	0.8	\$410				\$410	12.0	3.5	20%
TA0036	1.6	\$401		\$187		\$396	12.2	3.3	39%
TA0037	1.0	\$348			\$239	\$322	13.6	2.4	31%
TA0038	1.8	\$499		\$153		\$329	11.1	3.2	27%
TA0039	1.2	\$446		\$147		\$417	12.0	3.6	22%
TA0040	2.7	\$517		\$168		\$404	11.0	3.9	30%
Average	1.7	\$429	\$282	\$170	\$311	\$377	11.7	3.4	31%
Top 25%*	1.7	\$452	\$88	\$119	\$35	\$417	11.9	3.6	30%

* The top 25% are bold and italicised

Table A4 Variable 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
	\$/ kg MS	\$/ kg MS	\$/ kg MS	\$/ kg MS	\$/ kg MS	\$/ kg MS	\$/ kg MS	\$/ kg MS	\$/ kg MS
TA0001	\$0.05	\$0.17	\$0.00	\$0.11	\$0.08	\$0.41	\$0.20	\$0.19	\$0.03
TA0002	\$0.12	\$0.15	\$0.00	\$0.09	\$0.04	\$0.40	\$0.62	\$0.13	\$0.00
TA0003	\$0.19	\$0.20	\$0.08	\$0.17	\$0.07	\$0.70	\$0.53	\$0.11	\$0.03
TA0004	\$0.10	\$0.23	\$0.04	\$0.06	\$0.12	\$0.56	\$0.68	\$0.10	\$0.19
TA0006	\$0.08	\$0.10	\$0.04	\$0.09	\$0.05	\$0.36	\$0.27	\$0.03	\$0.05
TA0007	\$0.06	\$0.06	\$0.02	\$0.09	\$0.03	\$0.25	\$0.27	\$0.21	\$0.02
TA0008	\$0.10	\$0.12	\$0.04	\$0.09	\$0.06	\$0.41	\$0.24	\$0.24	\$0.05
TA0009	\$0.15	\$0.29	\$0.04	\$0.15	\$0.14	\$0.76	\$0.83	\$0.41	\$0.13
TA0010	\$0.12	\$0.14	\$0.06	\$0.06	\$0.04	\$0.41	\$0.51	\$0.18	\$0.13
TA0011	\$0.11	\$0.16	\$0.03	\$0.11	\$0.10	\$0.51	\$0.48	\$0.10	\$0.19
TA0012	\$0.08	\$0.11	\$0.00	\$0.18	\$0.24	\$0.62	\$0.78	\$0.06	\$0.03
TA0015	\$0.09	\$0.17	\$0.01	\$0.07	\$0.08	\$0.43	\$0.67	\$0.05	\$0.00
TA0019	\$0.10	\$0.09	\$0.04	\$0.10	\$0.15	\$0.48	\$0.47	\$0.00	\$0.04
TA0021	\$0.14	\$0.11	\$0.16	\$0.09	\$0.05	\$0.54	\$0.27	\$0.14	\$0.05
TA0023	\$0.12	\$0.21	\$0.05	\$0.10	\$0.05	\$0.52	\$0.47	\$0.21	\$0.14
TA0025	\$0.11	\$0.16	\$0.05	\$0.08	\$0.04	\$0.44	\$0.50	\$0.16	\$0.03
TA0026	\$0.10	\$0.13	\$0.06	\$0.10	\$0.04	\$0.42	\$0.48	\$0.03	\$0.05
TA0027	\$0.12	\$0.27	\$0.06	\$0.12	\$0.07	\$0.64	\$0.52	\$0.09	\$0.06
TA0028	\$0.09	\$0.15	\$0.00	\$0.05	\$0.09	\$0.38	\$0.47	\$0.10	\$0.25
TA0029	\$0.04	\$0.00	\$0.00	\$0.21	\$0.27	\$0.53	\$0.35	\$0.14	\$0.04
TA0031	\$0.04	\$0.24	\$0.01	\$0.20	\$0.09	\$0.59	\$0.43	\$0.07	\$0.18
TA0032	\$0.05	\$0.13	\$0.05	\$0.10	\$0.04	\$0.36	\$0.57	\$0.00	\$0.04
TA0033	\$0.06	\$0.17	\$0.05	\$0.09	\$0.05	\$0.42	\$0.58	\$0.00	\$0.01
TA0034	\$0.07	\$0.14	\$0.00	\$0.08	\$0.26	\$0.56	\$0.55	\$0.21	\$0.06
TA0035	\$0.05	\$0.14	\$0.04	\$0.06	\$0.03	\$0.31	\$0.61	\$0.15	\$0.18
TA0036	\$0.13	\$0.22	\$0.04	\$0.11	\$0.12	\$0.61	\$0.46	\$0.10	\$0.09
TA0037	\$0.11	\$0.13	\$0.05	\$0.09	\$0.09	\$0.47	\$0.39	\$0.09	\$0.27
TA0038	\$0.00	\$0.12	\$0.01	\$0.09	\$0.15	\$0.36	\$0.52	\$0.04	\$0.02
TA0039	\$0.12	\$0.16	\$0.07	\$0.10	\$0.10	\$0.55	\$0.65	\$0.27	\$0.07
TA0040	\$0.10	\$0.20	\$0.00	\$0.05	\$0.06	\$0.41	\$0.59	\$0.06	\$0.12
Average	\$0.094	\$0.155	\$0.036	\$0.102	\$0.094	\$0.482	\$0.499	\$0.122	\$0.085
Top 25%*	\$0.086	\$0.144	\$0.032	\$0.072	\$0.053	\$0.386	\$0.522	\$0.075	\$0.102

* The top 25% are bold and italicised

Table A4 Variable costs (continued)

Farm number	Fuel and oil	Pasture improvement/cropping	Other feed costs	Fodder purchases	Grain/concentrates/other	Agistment costs	Total feed costs	Total variable costs
	\$/ kg MS	\$/ kg MS	\$/ kg MS	\$/ kg MS	\$/ kg MS	\$/ kg MS	\$/ kg MS	\$/ kg MS
TA0001	\$0.06	\$0.02	\$0.11	\$0.30	\$0.65	\$0.60	\$2.17	\$2.58
TA0002	\$0.18	\$0.13	\$0.04	\$0.07	\$2.33	\$0.00	\$3.50	\$3.90
TA0003	\$0.13	\$0.19	\$0.13	\$0.24	\$1.21	\$0.41	\$2.99	\$3.69
TA0004	\$0.10	\$0.09	\$0.19	\$0.25	\$1.05	\$0.18	\$2.83	\$3.39
TA0006	\$0.05	\$0.20	\$0.00	\$0.13	\$0.82	\$0.38	\$1.94	\$2.30
TA0007	\$0.11	\$0.04	\$0.00	\$0.29	\$0.70	\$0.14	\$1.78	\$2.04
TA0008	\$0.05	\$0.13	\$0.08	\$0.19	\$2.11	\$0.03	\$3.12	\$3.53
TA0009	\$0.10	\$0.97	\$0.00	\$0.00	\$0.00	\$0.00	\$2.45	\$3.21
TA0010	\$0.10	\$0.01	\$0.23	\$0.23	\$1.42	\$0.02	\$2.82	\$3.23
TA0011	\$0.11	\$0.08	\$0.12	\$0.15	\$0.82	\$0.07	\$2.13	\$2.64
TA0012	\$0.14	\$0.15	\$0.00	\$0.02	\$1.02	\$0.11	\$2.32	\$2.93
TA0015	\$0.09	\$0.15	\$0.00	\$0.00	\$1.19	\$0.00	\$2.15	\$2.58
TA0019	\$0.03	\$0.15	\$0.00	\$0.02	\$1.78	\$0.09	\$2.59	\$3.07
TA0021	\$0.10	\$0.09	\$0.00	\$0.05	\$1.78	\$0.00	\$2.48	\$3.01
TA0023	\$0.03	\$0.02	\$0.00	\$0.11	\$1.31	\$0.44	\$2.74	\$3.27
TA0025	\$0.02	\$0.03	\$0.00	\$0.15	\$1.19	\$0.50	\$2.58	\$3.02
TA0026	\$0.02	\$0.03	\$0.00	\$0.67	\$1.37	\$0.37	\$3.04	\$3.46
TA0027	\$0.03	\$0.03	\$0.00	\$0.37	\$1.40	\$0.60	\$3.09	\$3.73
TA0028	\$0.06	\$0.02	\$0.00	\$0.00	\$1.45	\$0.00	\$2.36	\$2.74
TA0029	\$0.13	\$0.06	\$0.00	\$0.28	\$2.38	\$0.20	\$3.58	\$4.11
TA0031	\$0.09	\$0.13	\$0.00	\$0.08	\$1.36	\$0.00	\$2.34	\$2.93
TA0032	\$0.21	\$0.14	\$0.06	\$0.13	\$1.71	\$0.30	\$3.16	\$3.53
TA0033	\$0.03	\$0.10	\$0.05	\$0.15	\$1.56	\$0.28	\$2.74	\$3.17
TA0034	\$0.15	\$0.12	\$0.00	\$0.05	\$1.57	\$0.02	\$2.74	\$3.29
TA0035	\$0.08	\$0.03	\$0.00	\$0.02	\$0.81	\$0.24	\$2.13	\$2.43
TA0036	\$0.02	\$0.03	\$0.00	\$0.10	\$1.52	\$0.45	\$2.76	\$3.37
TA0037	\$0.06	\$0.07	\$0.00	\$0.27	\$1.08	\$0.48	\$2.71	\$3.18
TA0038	\$0.15	\$0.00	\$0.26	\$0.38	\$1.10	\$0.00	\$2.46	\$2.83
TA0039	\$0.04	\$0.11	\$0.00	\$0.07	\$1.29	\$0.00	\$2.50	\$3.05
TA0040	\$0.06	\$0.17	\$0.00	\$0.33	\$1.85	\$0.00	\$3.19	\$3.60
Average	\$0.08	\$0.12	\$0.04	\$0.17	\$1.33	\$0.20	\$2.65	\$3.13
Top 25%*	\$0.08	\$0.10	\$0.04	\$0.19	\$1.33	\$0.16	\$2.60	\$2.98

* The top 25% are bold and italicised

Table A5 Overhead 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 and 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
TA0001	\$0.04	\$0.05	\$0.09	\$0.41	\$0.00	\$0.14	\$0.71	\$1.44	\$0.14	\$0.44	\$2.02
TA0002	\$0.04	\$0.02	\$0.17	\$0.68	\$0.00	\$0.18	\$0.71	\$1.79	\$0.26	\$0.52	\$2.58
TA0003	\$0.03	\$0.06	\$0.02	\$0.37	\$0.03	\$0.09	\$0.45	\$1.06	\$0.04	\$0.43	\$1.53
TA0004	\$0.04	\$0.02	\$0.08	\$0.43	\$0.01	\$0.11	\$0.48	\$1.17	\$0.10	\$0.58	\$1.85
TA0006	\$0.04	\$0.01	\$0.04	\$0.27	\$0.00	\$0.05	\$0.46	\$0.86	\$0.27	\$0.64	\$1.77
TA0007	\$0.09	\$0.03	\$0.06	\$0.41	\$0.00	\$0.10	\$0.14	\$0.83	\$0.11	\$1.17	\$2.11
TA0008	\$0.04	\$0.02	\$0.09	\$0.40	\$0.03	\$0.14	\$0.44	\$1.16	\$0.11	\$0.34	\$1.60
TA0009	\$0.16	\$0.02	\$0.15	\$0.58	\$0.02	\$0.19	\$0.12	\$1.23	\$0.32	\$1.58	\$3.13
TA0010	\$0.04	\$0.02	\$0.07	\$0.32	\$0.01	\$0.03	\$0.57	\$1.06	\$0.06	\$0.48	\$1.59
TA0011	\$0.03	\$0.01	\$0.12	\$0.44	\$0.01	\$0.13	\$0.56	\$1.29	\$0.17	\$0.74	\$2.21
TA0012	\$0.09	\$0.00	\$0.17	\$0.27	\$0.03	\$0.18	\$0.92	\$1.65	\$0.17	\$0.19	\$2.01
TA0015	\$0.04	\$0.01	\$0.08	\$0.55	\$0.00	\$0.10	\$0.76	\$1.54	\$0.08	\$0.48	\$2.11
TA0019	\$0.00	\$0.00	\$0.08	\$0.19	\$0.00	\$0.09	\$0.97	\$1.32	\$0.22	\$0.00	\$1.54
TA0021	\$0.03	\$0.01	\$0.09	\$0.26	\$0.01	\$0.05	\$0.74	\$1.20	\$0.45	\$0.32	\$1.97
TA0023	\$0.02	\$0.00	\$0.09	\$0.45	\$0.00	\$0.03	\$1.36	\$1.96	\$0.04	\$0.00	\$2.00
TA0025	\$0.03	\$0.00	\$0.01	\$0.30	\$0.00	\$0.01	\$1.42	\$1.77	\$0.12	\$0.00	\$1.89
TA0026	\$0.01	\$0.01	\$0.00	\$0.33	\$0.00	\$0.07	\$0.79	\$1.20	\$0.05	\$0.00	\$1.25
TA0027	\$0.03	\$0.00	\$0.01	\$0.37	\$0.00	\$0.03	\$1.39	\$1.83	\$0.08	\$0.00	\$1.91
TA0028	\$0.02	\$0.00	\$0.06	\$0.22	\$0.00	\$0.03	\$0.62	\$0.96	\$0.22	\$0.20	\$1.37
TA0029	\$0.04	\$0.01	\$0.07	\$0.27	\$0.01	\$0.06	\$0.24	\$0.71	\$0.87	\$0.35	\$1.93
TA0031	\$0.02	\$0.00	\$0.11	\$0.40	\$0.01	\$0.07	\$0.68	\$1.31	\$0.09	\$0.19	\$1.59
TA0032	\$0.06	\$0.01	\$0.08	\$0.65	\$0.00	\$0.37	\$0.82	\$1.99	\$0.21	\$0.38	\$2.58
TA0033	\$0.04	\$0.00	\$0.09	\$0.46	\$0.00	\$0.17	\$0.69	\$1.45	\$0.08	\$0.62	\$2.15
TA0034	\$0.02	\$0.04	\$0.11	\$0.61	\$0.01	\$0.11	\$0.38	\$1.27	\$0.54	\$0.68	\$2.49
TA0035	\$0.02	\$0.01	\$0.03	\$0.21	\$0.01	\$0.04	\$0.44	\$0.76	\$0.09	\$0.19	\$1.04
TA0036	\$0.02	\$0.00	\$0.01	\$0.53	\$0.00	\$0.03	\$1.53	\$2.13	\$0.07	\$0.00	\$2.20
TA0037	\$0.03	\$0.01	\$0.09	\$0.31	\$0.00	\$0.12	\$0.63	\$1.19	\$0.14	\$0.87	\$2.20
TA0038	\$0.04	\$0.13	\$0.00	\$0.29	\$0.00	\$0.09	\$0.69	\$1.24	\$0.18	\$0.47	\$1.89
TA0039	\$0.03	\$0.01	\$0.00	\$0.46	\$0.00	\$0.09	\$1.55	\$2.14	\$0.16	\$0.00	\$2.30
TA0040	\$0.01	\$0.01	\$0.05	\$0.23	\$0.00	\$0.08	\$0.35	\$0.73	\$0.15	\$0.47	\$1.36
Average	\$0.04	\$0.02	\$0.07	\$0.39	\$0.01	\$0.10	\$0.72	\$1.34	\$0.19	\$0.41	\$1.94
Top 25%*	\$0.03	\$0.01	\$0.05	\$0.35	\$0.00	\$0.10	\$0.60	\$1.14	\$0.14	\$0.35	\$1.63

* The top 25% are bold and italicised

Table A6 Variable 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
TA0001	1.2%	3.6%	0.0%	2.4%	1.8%	9.0%	4.3%	4.2%	0.7%
TA0002	1.9%	2.3%	0.0%	1.4%	0.6%	6.2%	9.5%	2.0%	0.0%
TA0003	3.6%	3.9%	1.5%	3.2%	1.4%	13.5%	10.2%	0.0%	0.6%
TA0004	2.0%	4.4%	0.9%	1.1%	2.4%	10.7%	13.0%	1.9%	3.6%
TA0006	2.0%	2.4%	1.0%	2.1%	1.3%	8.8%	6.7%	0.7%	1.2%
TA0007	1.5%	1.4%	0.4%	2.1%	0.7%	6.1%	6.4%	5.1%	0.5%
TA0008	2.0%	2.3%	0.8%	1.7%	1.2%	8.0%	4.7%	4.6%	0.9%
TA0009	2.4%	4.6%	0.6%	2.4%	2.1%	12.1%	13.1%	6.4%	2.1%
TA0010	2.5%	2.8%	1.2%	1.3%	0.8%	8.6%	10.5%	3.7%	2.6%
TA0011	2.3%	3.3%	0.5%	2.3%	2.1%	10.5%	9.9%	2.0%	3.9%
TA0012	1.7%	2.3%	0.0%	3.7%	4.8%	12.5%	15.9%	1.2%	0.7%
TA0015	2.0%	3.6%	0.2%	1.6%	1.7%	9.2%	14.3%	1.1%	0.0%
TA0019	2.3%	1.8%	0.8%	2.2%	3.3%	10.4%	10.3%	0.0%	0.9%
TA0021	2.7%	2.2%	3.2%	1.8%	0.9%	10.8%	5.4%	2.9%	0.9%
TA0023	2.2%	3.9%	1.0%	1.9%	0.9%	10.0%	9.0%	4.0%	2.7%
TA0025	2.2%	3.3%	1.1%	1.5%	0.8%	8.9%	10.2%	3.3%	0.5%
TA0026	2.0%	2.8%	1.2%	2.2%	0.8%	8.9%	10.2%	0.6%	1.1%
TA0027	2.2%	4.8%	1.0%	2.1%	1.3%	11.4%	9.2%	1.5%	1.0%
TA0028	2.3%	3.7%	0.0%	1.2%	2.1%	9.3%	11.4%	2.5%	6.1%
TA0029	0.7%	0.0%	0.0%	3.5%	4.6%	8.7%	5.8%	1.5%	0.7%
TA0031	0.9%	5.4%	0.3%	4.4%	2.0%	13.0%	9.4%	1.6%	4.0%
TA0032	0.8%	2.1%	0.8%	1.6%	0.6%	5.9%	9.4%	0.0%	0.6%
TA0033	1.1%	3.2%	0.9%	1.7%	1.0%	8.0%	10.9%	0.0%	0.1%
TA0034	1.2%	2.5%	0.0%	1.4%	4.5%	9.7%	9.4%	3.7%	1.1%
TA0035	1.3%	3.9%	1.1%	1.7%	1.0%	8.9%	17.6%	4.4%	5.2%
TA0036	2.3%	3.9%	0.7%	1.9%	2.1%	11.0%	8.3%	1.7%	1.5%
TA0037	2.1%	2.5%	0.9%	1.7%	1.6%	8.8%	7.2%	1.7%	4.9%
TA0038	0.0%	2.5%	0.2%	1.8%	3.1%	7.7%	11.0%	0.8%	0.4%
TA0039	2.2%	2.9%	1.3%	1.9%	1.9%	10.3%	12.2%	5.1%	1.3%
TA0040	2.0%	4.0%	0.1%	0.9%	1.2%	8.3%	11.9%	1.2%	2.4%
Average	1.86%	3.08%	0.72%	2.02%	1.82%	9.51%	9.91%	2.32%	1.75%
Top 25%*	1.62%	2.66%	0.69%	1.46%	1.03%	7.46%	10.00%	1.63%	2.11%

* The top 25% are bold and italicised

Table A6 Variable costs (continued)

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
TA0001	1.3%	0.4%	2.5%	6.6%	14.0%	13.1%	47.1%	56.1%
TA0002	2.8%	2.0%	0.6%	1.1%	35.9%	0.0%	54.0%	60.2%
TA0003	2.4%	3.7%	2.6%	4.6%	23.2%	7.9%	57.2%	70.7%
TA0004	1.9%	1.7%	3.6%	4.8%	20.1%	3.5%	54.0%	64.7%
TA0006	1.3%	4.9%	0.1%	3.2%	20.3%	9.3%	47.7%	56.5%
TA0007	2.6%	0.9%	0.0%	7.1%	16.9%	3.5%	43.0%	49.1%
TA0008	1.0%	2.5%	1.6%	3.8%	41.1%	0.6%	60.7%	68.8%
TA0009	1.6%	15.3%	0.0%	0.0%	0.0%	0.0%	38.6%	50.6%
TA0010	2.0%	0.3%	4.8%	4.8%	29.5%	0.3%	58.5%	67.0%
TA0011	2.3%	1.7%	2.4%	3.2%	17.0%	1.4%	43.9%	54.4%
TA0012	2.8%	3.1%	0.0%	0.3%	20.6%	2.3%	46.9%	59.4%
TA0015	1.9%	3.2%	0.0%	0.0%	25.3%	0.0%	45.9%	55.1%
TA0019	0.7%	3.3%	0.0%	0.5%	38.6%	2.0%	56.3%	66.7%
TA0021	2.0%	1.8%	0.1%	1.0%	35.6%	0.0%	49.7%	60.5%
TA0023	0.6%	0.5%	0.0%	2.2%	24.9%	8.3%	52.1%	62.0%
TA0025	0.5%	0.5%	0.0%	3.1%	24.2%	10.1%	52.6%	61.5%
TA0026	0.5%	0.7%	0.0%	14.3%	29.2%	7.9%	64.6%	73.5%
TA0027	0.5%	0.6%	0.0%	6.5%	24.7%	10.7%	54.7%	66.1%
TA0028	1.5%	0.4%	0.0%	0.0%	35.3%	0.0%	57.3%	66.6%
TA0029	2.1%	1.0%	0.0%	4.6%	39.5%	3.3%	59.3%	68.0%
TA0031	1.9%	2.9%	0.1%	1.8%	30.0%	0.0%	51.8%	64.7%
TA0032	3.4%	2.4%	1.0%	2.1%	28.1%	4.9%	51.8%	57.8%
TA0033	0.5%	1.8%	1.0%	2.7%	29.3%	5.3%	51.6%	59.6%
TA0034	2.6%	2.1%	0.0%	0.8%	27.1%	0.4%	47.3%	57.0%
TA0035	2.2%	0.9%	0.0%	0.6%	23.4%	6.9%	61.2%	70.1%
TA0036	0.4%	0.5%	0.0%	1.8%	27.2%	8.0%	49.5%	60.5%
TA0037	1.1%	1.3%	0.0%	5.0%	20.2%	8.9%	50.4%	59.1%
TA0038	3.2%	0.0%	5.5%	8.0%	23.3%	0.0%	52.1%	59.9%
TA0039	0.7%	2.0%	0.0%	1.3%	24.1%	0.0%	46.7%	57.0%
TA0040	1.2%	3.5%	0.0%	6.7%	37.3%	0.0%	64.2%	72.5%
Average	1.7%	2.2%	0.9%	3.4%	26.2%	4.0%	52.4%	61.9%
Top 25%*	1.6%	1.6%	0.7%	3.1%	23.9%	3.7%	48.4%	55.8%

* The top 25% are bold and italicised

Table A7 Overhead 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 and 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
TA0001	0.8%	1.1%	2.0%	9.0%	0.1%	3.0%	15.4%	31.4%	2.9%	9.6%	43.9%
TA0002	0.6%	0.2%	2.6%	10.5%	0.0%	2.8%	10.9%	27.6%	4.1%	8.1%	39.8%
TA0003	0.7%	1.2%	0.4%	7.0%	0.6%	1.8%	8.7%	20.4%	0.8%	8.2%	29.3%
TA0004	0.8%	0.4%	1.5%	8.2%	0.1%	2.0%	9.2%	22.2%	2.0%	11.1%	35.3%
TA0006	1.0%	0.3%	0.9%	6.6%	0.0%	1.1%	11.4%	21.2%	6.6%	15.6%	43.5%
TA0007	2.1%	0.6%	1.5%	9.9%	0.1%	2.4%	3.4%	19.9%	2.8%	28.2%	50.9%
TA0008	0.8%	0.4%	1.8%	7.7%	0.5%	2.8%	8.5%	22.6%	2.1%	6.6%	31.2%
TA0009	2.6%	0.3%	2.4%	9.1%	0.3%	3.0%	1.8%	19.4%	5.1%	24.9%	49.4%
TA0010	0.9%	0.4%	1.4%	6.6%	0.2%	0.7%	11.7%	21.9%	1.3%	9.9%	33.0%
TA0011	0.7%	0.3%	2.4%	9.0%	0.2%	2.6%	11.5%	26.6%	3.6%	15.4%	45.6%
TA0012	1.8%	0.0%	3.4%	5.5%	0.5%	3.7%	18.6%	33.4%	3.4%	3.8%	40.6%
TA0015	0.8%	0.2%	1.8%	11.7%	0.0%	2.2%	16.2%	32.9%	1.7%	10.3%	44.9%
TA0019	0.0%	0.0%	1.7%	4.0%	0.1%	1.9%	21.1%	28.7%	4.7%	0.0%	33.3%
TA0021	0.7%	0.2%	1.8%	5.2%	0.3%	1.1%	14.8%	24.0%	9.0%	6.5%	39.5%
TA0023	0.4%	0.0%	1.7%	8.6%	0.0%	0.6%	25.8%	37.2%	0.8%	0.0%	38.0%
TA0025	0.6%	0.1%	0.2%	6.1%	0.0%	0.3%	28.8%	36.1%	2.4%	0.0%	38.5%
TA0026	0.1%	0.1%	0.0%	6.9%	0.0%	1.6%	16.8%	25.5%	1.0%	0.0%	26.5%
TA0027	0.4%	0.0%	0.2%	6.6%	0.0%	0.4%	24.7%	32.4%	1.5%	0.0%	33.9%
TA0028	0.5%	0.1%	1.4%	5.5%	0.0%	0.7%	15.0%	23.4%	5.3%	4.8%	33.4%
TA0029	0.6%	0.1%	1.2%	4.5%	0.2%	1.0%	4.0%	11.8%	14.4%	5.7%	32.0%
TA0031	0.5%	0.0%	2.5%	8.9%	0.2%	1.7%	15.0%	28.9%	2.1%	4.3%	35.3%
TA0032	0.9%	0.2%	1.3%	10.6%	0.0%	6.1%	13.4%	32.6%	3.4%	6.3%	42.2%
TA0033	0.7%	0.0%	1.7%	8.7%	0.1%	3.1%	13.0%	27.2%	1.6%	11.6%	40.4%
TA0034	0.3%	0.6%	1.9%	10.5%	0.1%	1.9%	6.5%	21.9%	9.4%	11.8%	43.0%
TA0035	0.5%	0.3%	0.9%	5.9%	0.1%	1.3%	12.7%	21.8%	2.7%	5.4%	29.9%
TA0036	0.4%	0.1%	0.2%	9.6%	0.0%	0.6%	27.4%	38.3%	1.2%	0.0%	39.5%
TA0037	0.6%	0.2%	1.6%	5.8%	0.0%	2.1%	11.8%	22.1%	2.7%	16.1%	40.9%
TA0038	0.9%	2.8%	0.0%	6.2%	0.0%	1.9%	14.5%	26.3%	3.9%	10.0%	40.1%
TA0039	0.7%	0.1%	0.1%	8.6%	0.0%	1.6%	29.0%	40.0%	3.0%	0.0%	43.0%
TA0040	0.2%	0.2%	1.0%	4.6%	0.0%	1.6%	7.1%	14.8%	3.1%	9.6%	27.5%
Average	0.75%	0.35%	1.39%	7.58%	0.13%	1.92%	14.30%	26.42%	3.61%	8.11%	38.14%
Top 25%*	0.62%	0.23%	1.08%	7.30%	0.06%	1.91%	13.06%	24.27%	3.12%	7.72%	35.11%

* The Top 25% are bold and italicised

Table A8 Capital structure

	FARM ASSETS				OTHER FARM ASSETS (PER USABLE HECTARE)				Total assets
	Land value	Land value	Permanent water value	Permanent water value	Plant and equipment	Livestock	Hay and grain	Other assets	
	\$/ha	\$/cow	\$/ha	\$/cow	\$/ha	\$/ha	\$/ha	\$/ha	\$/ha
Average	\$14,227	\$7,743	\$360	\$191	\$1,541	\$2,914	\$173	\$224	\$20,410
Top 25%*	\$13,748	\$7,854	\$433	\$262	\$1,321	\$3,205	\$243	\$86	\$22,058

	LIABILITIES		ASSETS	
	Liabilities per usable hectare	Liabilities per milking cow	Equity per usable hectare	Average equity
	\$/ha	\$/cow	\$/ha	%
Average	\$5,201	\$2,601	\$15,210	74%
Top 25%*	\$5,895	\$2,477	\$16,163	76%

Appendix B: 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, rent from cottages, rebates and grants.

Annual hours

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

Appreciation

An increase in the value of an asset in the market place. Often only applicable to land value.

Asset

Anything managed by the farm, whether it is owned or not. Assets include land and buildings, plant and machinery, fixtures and fittings, trading stock, investments, debtors, and cash.

Break-even price required

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

Cash overheads

All fixed costs that have a cash cost to the business. Includes all overhead costs except imputed people costs and depreciation.

Cost of production

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

Cost structure

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

Debt servicing ratio

Interest and lease costs as a percentage of gross farm income.

Depreciation

Decrease in value over time of capital asset, usually as a result of using the asset. Depreciation is not cash, but reduces the book value of the asset and is therefore a cost.

Earnings before interest and tax (EBIT)

Gross income minus total variable costs and total overhead costs.

EBIT %

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

Employed labour cost

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

Equity

Total assets minus total liabilities. Equal to the total value of capital invested in the farm business by the owner/operator(s).

Equity %

Total equity as a percentage of the total assets managed. The proportion of the total assets owned by the business.

Farm income

See gross farm income.

Feed costs

Cost of fertiliser, irrigation (including effluent), hay and silage making, fuel and oil, pasture improvement, fodder purchases, grain/concentrates, agistment and lease costs associated with any of the above costs.

Finance costs

Total interest plus total lease costs paid.

Full time equivalent (FTE)

Standardised people unit. Equal to 2400 hours a year. Calculated as 50 hours a week, 48 weeks a year.

Grazed area

Total usable area minus any area used only for fodder production during the year.

Grazed pasture

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

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

Total energy available is the sum of energy available from all feed sources except pasture, calculated as (weight (kg) × dry matter content (DM %) × metabolisable energy (MJ/kg DM)).

Gross farm income

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

Gross margin

Gross income minus total variable costs.

Herd costs

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

Imputed

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

Imputed labour cost

An allocated allowance for cost of owner/operator, family and 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, e.g. family or an institution such as a bank

Metabolisable energy

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

Milk income

Income through the sales of milk.

Milking area

Total usable area minus outblocks or run-off areas.

Net farm income

Previously reported as business profit

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

Number of milkers

Total number of cows milked for at least three months.

Other income

Income to the farm from other farm owned assets and external sources. Includes dividends, interest payments received, rents from cottage, rebates and grants.

Overhead costs

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

Labour cost

Cost of the labour resource on farm. Includes both imputed and employed labour cost.

Labour efficiency

FTEs per cow and per kilogram of milk solid. Measures of productivity of the total labour resources in the business.

Labour resource

Any person who works in the business, be they the owner, family, 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 e.g. house and shed area.

Total water used

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

Variable costs

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

List of abbreviations

AI	Artificial insemination	MJ	Megajoules of energy
CoP	Cost of production	mm	Millimetres. 1 mm is equivalent to 4 points or 1/25th of an inch of rainfall
DEDJTR	Department of Economics Development, Jobs, Transport and Resources, Victoria	MS	Milk solids (proteins and fats)
DFMP	Dairy Farm Monitor Project	Q1	First quartile, i.e. the value of which one quarter, or 25%, of data in that range is <i>less</i> than.
DM	Dry matter of feed stuffs	Q3	Third quartile, i.e. the value of which one quarter, or 25%, of data in that range is <i>greater</i> than.
EBIT	Earnings before interest and tax	RoA	Return on assets.
FTE	Full time equivalent	RoE	Return on equity.
ha	Hectares	t	Tonne = 1,000 kg.
hd	Head of cattle		
kg	Kilograms		
ME	Metabolisable energy (MJ/kg)		



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Your Levy at Work

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