DEPARTMENT OF
PRIMARY INDUSTRIES

Dairy Industry Farm Monitor Project

Summary of Results 2008/2009

Victoria
The Place To Be

Dairy Australia

ACKNOWLEDGMENTS

The cooperation, patience and goodwill of the farmers who willingly supplied their farm information again or for the first time in what has been a turbulent year for the dairy industry is gratefully acknowledged.

The diligent work of the DPI Dairy extension team who gathered the final performance data deserve particular thanks, especially Michele Ryan, David Shambrook, Natalie Nelson, Jason McAinch and John Moran who continued to be actively involved in the report through to its publication.

Thank you to DPI Tatura for supplying the information on the Energetics method for calculating feed consumption.

Thank you to Tony Cuzner for creating the map used in this publication.

Special thanks go to Will English who managed the project over the previous two years. His effort in developing this project from an early stage has ensured its success to date.

This report has been produced in conjunction with Dairy Australia.

July 2009

ISSN 1835-9922

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

Find out more information about DPI on the internet at http://www.dpi.vic.gov.au

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DEPARTMENT OF PRIMARY INDUSTRIES, VICTORIA

DAIRY INDUSTRY FARM MONITOR PROJECT

Summary of Results

2008/09

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- **Business confidence survey**
- **Greenhouse report**
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The report presents visual descriptions of the data for the 2008/09 year. Data is presented for individual farms, regional averages and regional top 25% of farms ranked on earnings before interest and tax per hectare. Reported averages are calculated as the mean of the farms in the sample. These averages should in no way be considered averages for the population of farms in that region given the small sample size and farms are not randomly selected.

The top 25% of farms are presented as striped bars in the regional overview graphs. Earnings before interest and tax has been used as the determinate of the top producers due to the subjective nature of asset valuation resulting in return on assets being a less certain figure for identifying top performing farms.

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 in the Q1-Q3 data range. Given the differences in variation in the regional data, caution is highly recommended when comparing one region to another.

To reduce wordiness, this report will often refer to the group of participating farms in each region by their regional name;
- The 21 participating farms in the Northern Victoria region are referred to as 'the North'.
- The 25 participating farms in the South Western Victoria region are referred to as 'the South West'.
- The 22 participating farms in the Gippsland region are referred to as 'Gippsland'.

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.

The report will focus on measures on a per hectare basis, with occasional referral to measure on a per kilogram of milk solids sold or per cow basis. The appendix tables contain the majority of financial information in a per kilogram of milk solids basis. This is done to give a broader range of information and to ensure that data is presented in the format relevant to the discussion.

The methodology used is a combination of that used in the South West Farm Monitor Project, Taking Stock and various other referenced sources. Attention should be paid to methodology when directly comparing figures from this report with those generated via other means.

The reporting of data around cost and productivity of the people in the business is consistent with the terminology and coefficients used in the *The People in Dairy* project. A full time equivalent is classified as 50 hours a week, to give a total annual hours of 2400 per year. If comparing data with the 2006/07 report, the people productivity data will need to be converted. To do this, multiply results from the 2006/07 report by 1.25.

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] = [40/80] = 0.5, unless otherwise stated.

Top 25% consists of 6 farms in the South West and Gippsland regions, 5 farms in the North and 17 farms on a statewide basis. The 17 farms in the statewide top 25% are taken by considering all 68 farms as the one sample and not from combining the top farms from each region.

Discussion on 'last year' refers to the 2007/08 Dairy Industry Farm Monitor Project report. The farms that were included in previous years samples are noted at the start of each regional chapter.

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

Please note that this data was collected during June and some forecasting of costs and production has occurred.

WHAT'S NEW IN 2009!

The Dairy Industry Farm Monitor Project Report for 2008/09 includes a number of changes since last years report. The following highlights the most significant of those.

- For improved accuracy milk production and income figures for the month of June 2009 were collected in July 2009.
- Depreciation and Imputed People Costs have been separated out in the Overhead costs category. This is to allow the calculation of the actual cash cost of production per kilogram of milk solids as well as a total cost of production. It should be noted that these non cash costs, depreciation and imputed people costs, are important costs to be considered when performing an economic analysis of a business.
- The term feed produced has been replaced with feed consumed. The method of calculating this figure has remained the same.
- The term fertiliser application has been replaced with nutrient application. The method of calculating this figure has remained the same.
- The Australian National Greenhouse Gas Inventory method has been updated due to The Department of Climate Change adopting a new Intergovernmental Panel on Climate Change standard calculation. The new method has replaced the "Soil Disturbance" factor with "Indirect N_2O Emissions" which is comprised of ammonia and nitrate loss.
- Some minor adjustments have been made to the Appendix tables. Care should be taken if comparing sets of data from one year to the next. Also, the glossary has been extended.

Keep an eye on the project website for further reports and updates on the project including the 2008/09 Dairy Industry Farm Monitor Project Feature Article. The feature article this year will consist of two sections. The first will examine management strategies employed by participants in the project in response to the decline in farm gate milk price. Data collected as part of the 2008/09 project will be used to inform this article. The second section of this article will look at a range of potential methods for the strategic development of dairy farms. This section will draw on findings made in the Modelling Dairy Farming Systems research project. The feature article will be available in full on the project website from October 31st 2009.

Visit the project website at www.dpi.vic.gov.au/dairyfarmmonitor

PART ONE:
EXECUTIVE SUMMARY

This is the third year of the Dairy Industry Farm Monitor Project in Victoria. The project aims to provide the Victorian dairy industry with valuable farm level data relating to productivity gains and profitability, as well as identifying the key drivers of productivity and profitability growth.

Data was collected from 68 farms across three regions of Victoria; Northern Victoria, South West Victoria and Gippsland. Participants have been selected with the objective of representing a distribution of farm sizes, herd sizes and geographical locations within each region. Statistically 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.

The 2008/09 year saw unprecedented volatility in the global dairy market which was strongly linked to the global economic financial crisis. The global price of dairy commodities fell significantly, with a drop of over 50% between the start of 2008 and March 2009. The Australian dairy industry exports approximately 50% of its production and as such, dairy producers were vulnerable to these falls. On farm the drop in global dairy prices translated to a one in thirty five year mid-season reduction in farm-gate milk prices. This reduction was most strongly felt in the southern dairying regions of Australia where production is mainly focused on supplying export markets. Producers supplying the domestic market were somewhat insulated from these reductions in price as supply contracts remained in place.

The results from the 2008/09 year reflected the mixed year for the dairy industry. With the initial strong world price for milk and high opening prices many farmers expected farm profitability levels to again be high. However with export focussed milk companies forced to revise their milk payments down, effective from February 2009, predicted profit levels were severely impacted. Average profitability across the participant farms was $1.08 per kilogram of milk solids sold or $796 per hectare. This is a reduction of 55% and 46% respectively on levels recorded in the 2007/08 Dairy Industry Farm Monitor Project Report. Similarly the return on assets across the state fell from 10% to 3.8% for the same period.

Regionally in Victoria, the majority of farms in the South West and Gippsland remained profitable with over 90% of participant farms in these regions recording positive earnings before interest and tax. In the North this figure was closer to 75% but of greater interest is the fact that over 50% of the farms recorded a negative return to equity, compared to only 20% in the other regions, meaning in net terms they are worth less now than a year ago.

Milk price has re-emerged as the greatest challenge facing dairy farmers. This was highlighted in the business confidence survey with milk price, international markets and the value of the Australian dollar being the nominated by farmers as the biggest issue facing them for the next 12 months. In terms of impact on farm gate prices, a 1 cent appreciation of the $AUD against the $USD results in a reduction in farm gate prices of 0.5-0.6 cents per litre. With these factors in mind the majority of participants expect farm business returns to deteriorate over the next 12 months. Within this there is an expectation that the cost of purchased feed and fertiliser inputs will remain stable or decrease while the cost of fuel and oil and irrigation will remain stable or rise.

A greenhouse gas emission audit was conducted using the Australian National Greenhouse Gas Inventory method. The average level of greenhouse gases emitted was 10.4 tonnes per tonne of milk solids produced which is similar to the 10.8 and 10.3 tonnes per tonne of milk solids produced in 2007/08 and 2006/07 respectively.

PART TWO:
STATEWIDE OVERVIEW

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

The approximate location of the participating farms is shown in Figure 1.

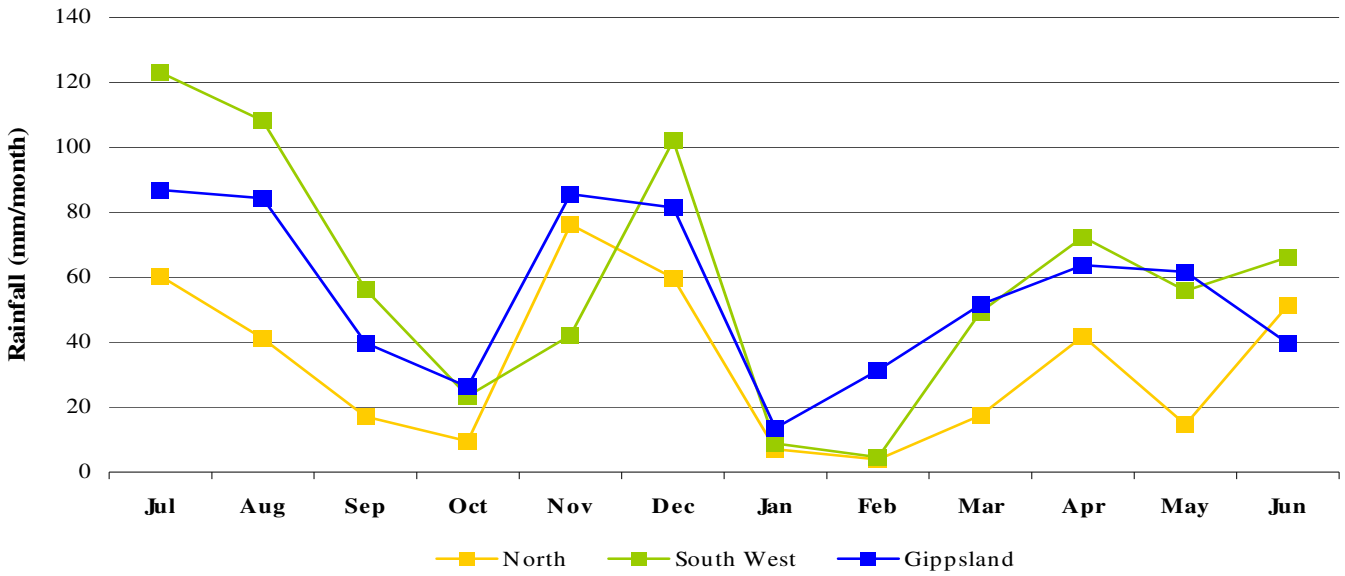
FIGURE 1: DISTRIBUTION OF FARMS ACROSS VICTORIA

2008/09 SEASONAL CONDITIONS

The average rainfall across the farms in each region was below the long term averages. The North received 400mm over the year, approximately 78% of the long term average for these farms of 515mm. Farms in the South West received on average 707mm, or 89% of their long term average rainfall of 790mm. Gippsland received an average of 665mm, which is equivalent to 72% of their long term average rainfall of 926mm. Figure 2 shows the rainfall pattern during the year and the wide variation that occurred.

The regional chapters provide more detail on the 2008/09 seasonal conditions.

FIGURE 2: 2008/09 MONTHLY RAINFALL



WHOLE FARM ANALYSIS

On average, farms in the South West ran the largest herds over the largest area. Gippsland had a much smaller average useable area compared to the other two regions at 182 hectares, but their high average stocking rate of 1.6 milking cows per hectare resulted in the highest production level of milk solids per hectare. Cows in the North had the highest average milk production across the year at 509 kg MS/cow.

Total water use per hectare was down in the North as there was limited allocation of irrigation water as well as below average rainfall. The two main systems, the Murray and the Goulburn, closed at 35% and 33% allocations respectively for the year. Conversely, the Macalister Irrigation District in Gippsland had a 100% allocation although the year was drier than average. Table 1 suggests that more water was used for irrigation per hectare on Gippsland farms than in the North during 2008/09.

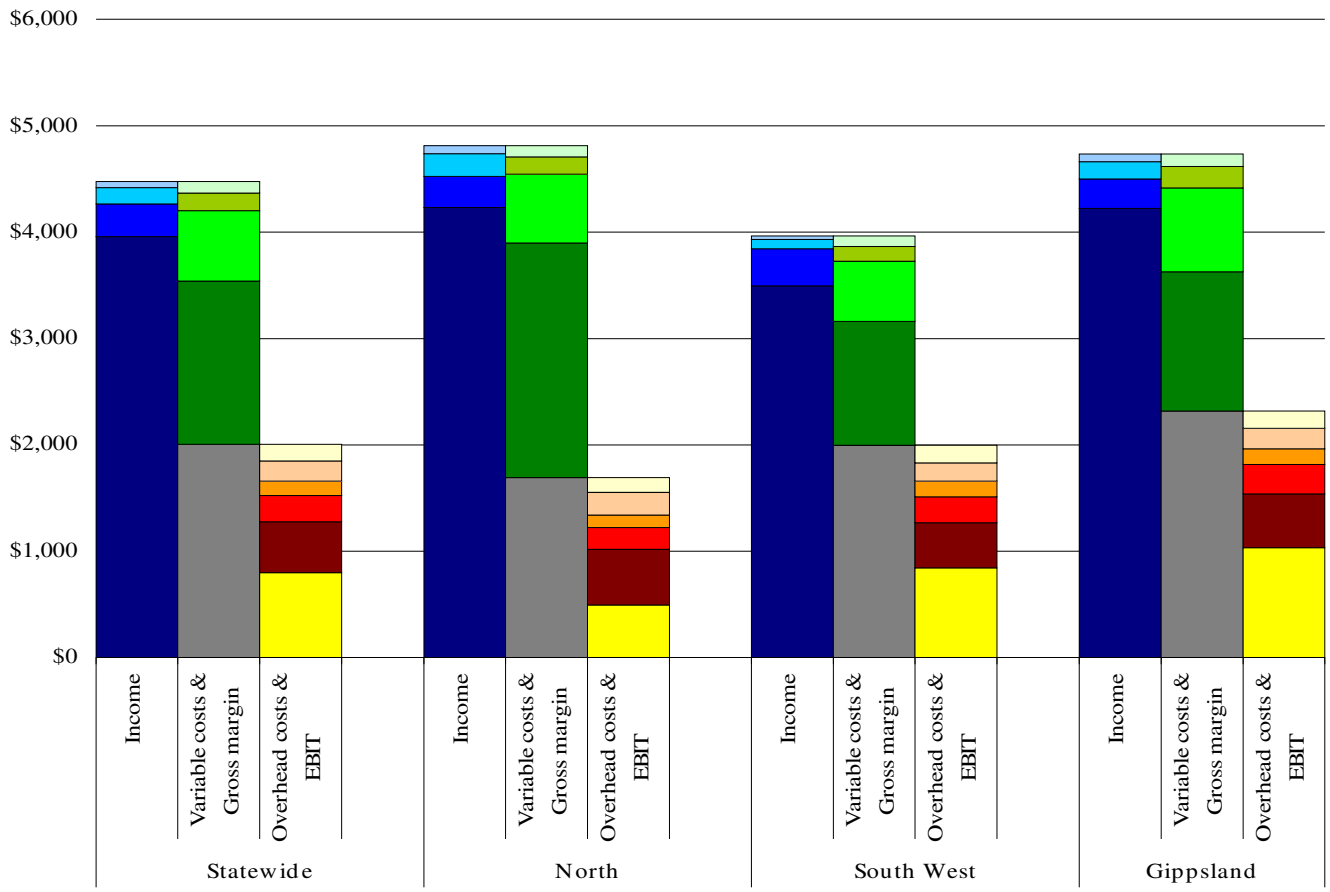
Average people productivity was similar between the regions, although the North was slightly more efficient in terms of both milking cows and kilograms of milk solids sold per full time equivalent (FTE) of labour.

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

TABLE 1: FARM PHYSICAL DATA – STATE OVERVIEW

Farm physical parameters	Statewide	North	South West	Gippsland
Number of farms in sample	68	21	25	22
Herd size (max no. milker for at least 3 months)	330	322	384	276
Annual rainfall 08/09	600	400	711	665
Water used (irrigation + rainfall) (mm/ha)	687	512	723	814
Total useable area (hectares)	256	245	330	182
Stocking rate (milking cows per useable hectares)	1.5	1.6	1.3	1.6
Milk sold (kg MS /cow)	500	509	506	480
Milk sold (kg MS /ha)	645	669	590	726
Milk price received ($/kg MS)	$5.53	$5.51	$5.67	$5.33
People productivity (milking cows / FTE)	97	101	94	96
People productivity (kg MS / FTE)	48,333	51,592	47,520	46,207

FIGURE 3: AVERAGE FARM FINANCIAL PERFORMANCE PER HECTARE



See Table 2 for the legend on Figure 3.

Figure 3 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 and tax. The legend for Figure 3 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, an increase 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 hectare between the regions closely reflects the stocking rates of the three regions. While Figure 3 shows just how much milk income dominates gross income, other sources are still important to the farm business. In the North, income from sources other than milk (e.g. an increase in inventories of stock or feed or cash income from livestock trading) totalled $597 per hectare, which was greater than the average earnings before interest and tax of $494 per hectare.

TABLE 2: AVERAGE FARM FINANCIAL PERFORMANCE PER HECTARE - STATEWIDE

Farm income and cost category	Statewide	North	South West	Gippsland
INCOME				
Feed inventory gain	$59	$73	$34	$73
Other farm income	$151	$214	$88	$163
Livestock trading gain	$307	$292	$347	$277
Milk income (net)	$3,958	$4,232	$3,496	$4,223
Total income	$4,475	$4,811	$3,964	$4,735
VARIABLE COSTS				
Livestock trading loss	$1	$0	$2	$0
Shed costs	$107	$105	$98	$118
Herd costs	$165	$160	$138	$201
Home grown feed costs	$662	$646	$563	$791
Purchased feed, inventory loss and agistment	$1,533	$2,205	$1,167	$1,307
Total variable costs	$2,468	$3,117	$1,969	$2,417
GROSS MARGIN				
per hectare	$2,007	$1,694	$1,996	$2,318
OVERHEAD COSTS				
Other overheads	$158	$144	$166	$162
Repairs and maintenance	$191	$212	$171	$191
Depreciation	$138	$117	$148	$148
Employed people costs	$245	$205	$245	$281
Imputed people costs	$480	$522	$423	$503
Total overhead costs	$1,211	$1,200	$1,153	$1,287
EARNINGS BEFORE INTEREST and TAX				
per hectare	$796	$494	$843	$1,032

VARIABLE COSTS

Variable costs are costs directly associated with production. Examples include animal health, contract services, supplementary feeding, agistment and pasture costs. Figure 3 shows the large cost of purchased feed and agistment (seen as *dark green*), particularly in the North. Home grown feed was the other major variable cost. The cost of feed accounted for around 90% of total variable costs in all regions, although it was slightly higher in the North. The high milk price for two-thirds of the year will have allowed for the use of high cost inputs such as fertiliser and grain to have remained economic on the majority of farms for that period. 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 for analysing changes on farm that don't require capital investment. The statewide average gross margin was $2,007/ha, an 18% decrease from down from last $2,457 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 peoples time. Imputed people 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 people cost is calculated as the greater of $400 per cow less paid labour (the method used in Taking Stock) or $15 per hour of imputed people time.

Table 2 shows that participants in the North had a higher average imputed people and lower average employed people costs per hectare than those in the other two regions. This suggests that owner/operators in the North perform the majority of tasks on their farms. The South West incurred lower total overhead costs per hectare than

the other two regions, thanks mainly to lower imputed people and repairs and maintenance costs. Conversely on a per kilogram of milk solids basis (see Appendix Tables 5), the South West had the highest overhead costs suggesting that their lower per hectare costs are due predominantly to their larger farm sizes.

EARNINGS BEFORE INTEREST AND TAX

Earnings before interest and tax (EBIT) is the gross income, less variable costs and overhead costs including imputed costs. As this Figure excludes tax and interest and lease costs, it can be used to compare the operational efficiency of the whole farm business.

Figure 4 below expressed as per kilogram of milk solids, and Table 2 above expressed as per hectare, both show positive average EBIT in all three regions. These levels however have declined dramatically from 2007/08 levels with reductions in EBIT per hectare of 79%, 59% and 76% recorded for the North, the South West and Gippsland respectively. Figures 17, 28 and 39 in the regional chapters provide a visual representation of the reduction in EBIT between the samples this year and last.

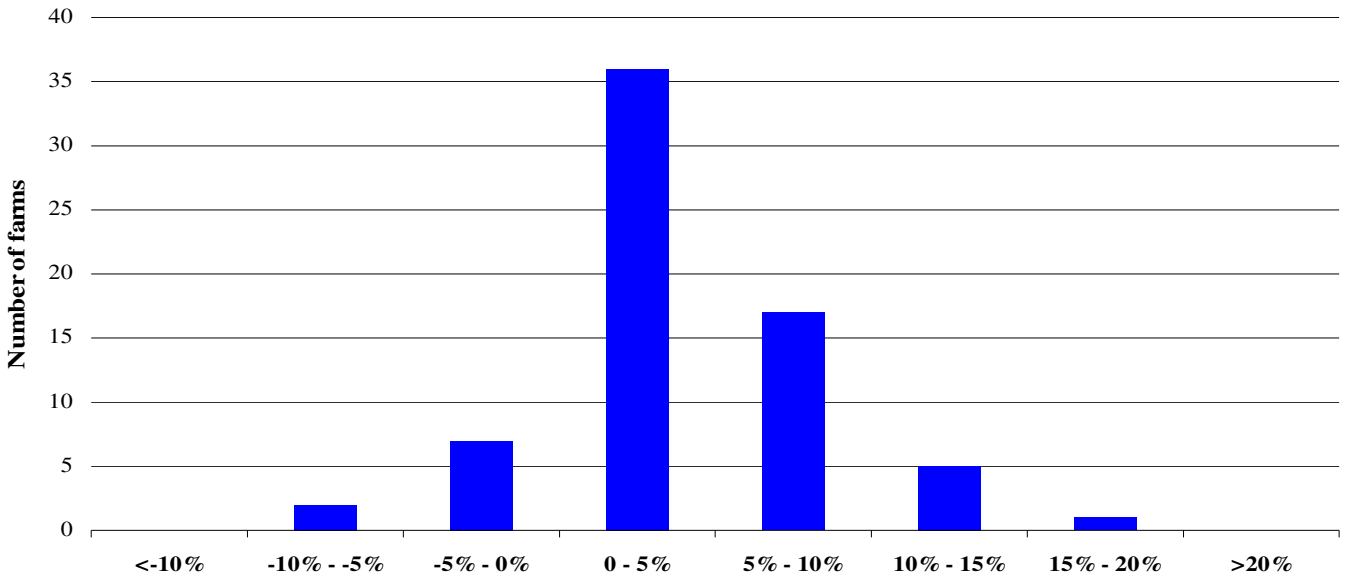
FIGURE 4: AVERAGE EARNINGS BEFORE INTEREST AND TAX PER KILOGRAM OF MILK SOLIDS SOLD

RETURN ON ASSETS AND ON EQUITY

The return on assets is the earnings before interest and tax expressed as a percentage of total farm assets 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 3.8%, with a range of -9% to 19% and a median of 2.5% (see Appendix Tables 1). 59 of the 68 participant farms had a positive return on assets, while 9 farms returned a negative EBIT and thus return on assets in this economic analysis.

FIGURE 5: DISTRIBUTION OF FARMS BY RETURN ON ASSETS

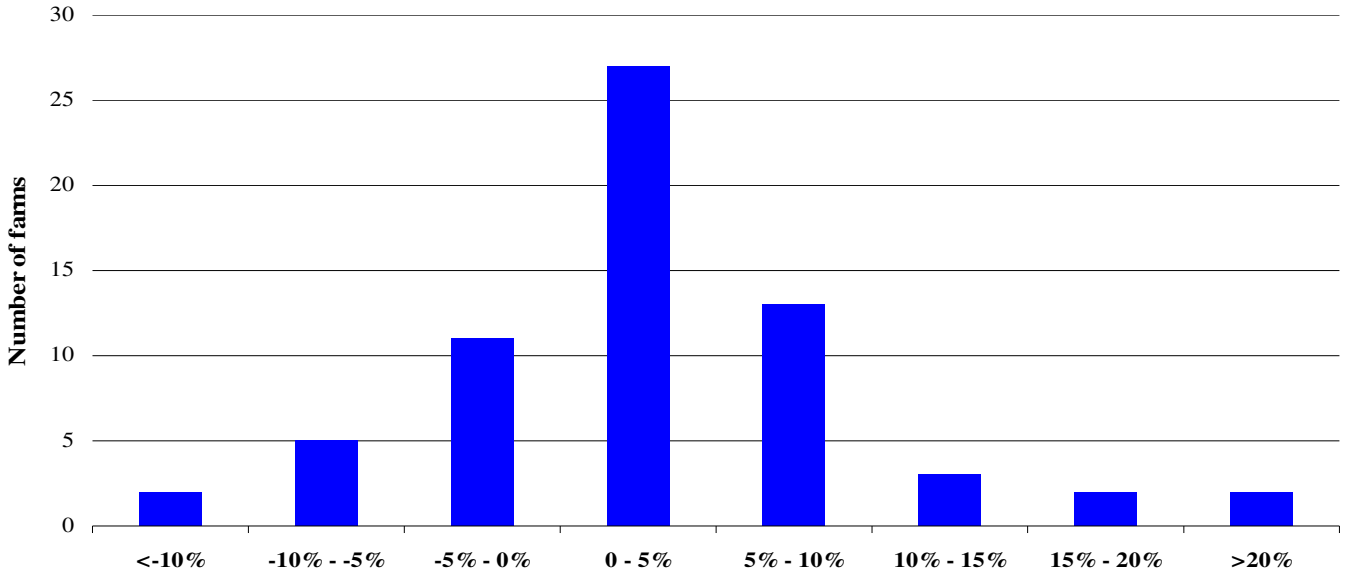


Return on equity is the net farm income (earnings before interest and tax less interest and lease charges) expressed as a percentage of owner equity. Items not accounted for in net farm income are loan principle repayments and tax. Return on equity is a measure of the owner's rate of return on their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

The average return on equity for the 68 farms during 2008/09 was 3.4%. Figure 6 shows that 21 of all 68 participants, almost a third, had a negative return on equity in this analysis, meaning in net terms they are worth less now than they were a year ago. Forty participants in the project recorded returns on equity of between 0% and 10%, while only 7 farms recorded returns on equity of greater than 10%.

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

FIGURE 6: 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…" [1]

Table 3 presents some risk ratios. Refer to Appendix E for the definition of terms used in Table 3.

TABLE 3: RISK RATIOS - STATEWIDE

	Statewide	North	South West	Gippsland
Cost structure	83%	92%	83%	80%
Debt servicing ratio (percentage of income as finance costs)	10%	9%	12%	9%
Debt per cow	$3,124	$3,008	$3,517	$2,789
Equity percentage (ownership of total assets managed)	73%	67%	74%	78%
Percentage of feed imported (as a % of total ME)	38%	54%	32%	29%

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. It thus holds that in regions where risk is higher, less risk is taken. While in good times this will result in lower returns, in bad times it will lessen the losses.

The North has a much greater exposure to fluctuations in prices and supply in the market for feed given the greater use of imported feed stuffs. This is concerning given the level of equity in the region has dropped from 73% last year to 67% over the past year. This lower equity percentage suggests that farms are borrowing more money to pay for purchased feed. Lower equity levels also mean greater exposure to changes in interest rates.

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. In 2007/08 68% of participant's were able to borrow money and generate a return on equity greater than their return on assets, a good result. In 2008/09 that number fell to 28% with only 19 of 68 farms able to borrow money or lease land and make a return off the extra available capital beyond the cost of having access to it, i.e. interest or lease charges. Hardest hit were participants in the North with 17 of 21 participants recording a lower return on equity than on assets.

The ratios in Table 3 can be found in Appendix Tables 1, 3 and 8 for each region. The higher the ratio (or lower with equity %), 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 ratios, given it is measured against the product produced and sold currently and not the capital invested.

[1] 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 7 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.

While grazed pasture was the major component of the average cows diet in all regions, the North is more dependent on outside sources of feed in 2008/09. 54% of the North's ME was sourced from bought in feed, compared to 32% in the South West and 29% in Gippsland. All regions are dependent on concentrates with average proportion of ME sourced from concentrates at 31%, 24% and 21% respectively.

Appendix Tables 3 give further information on purchased feed.

FIGURE 7: SOURCES OF WHOLE FARM METABOLISABLE ENERGY

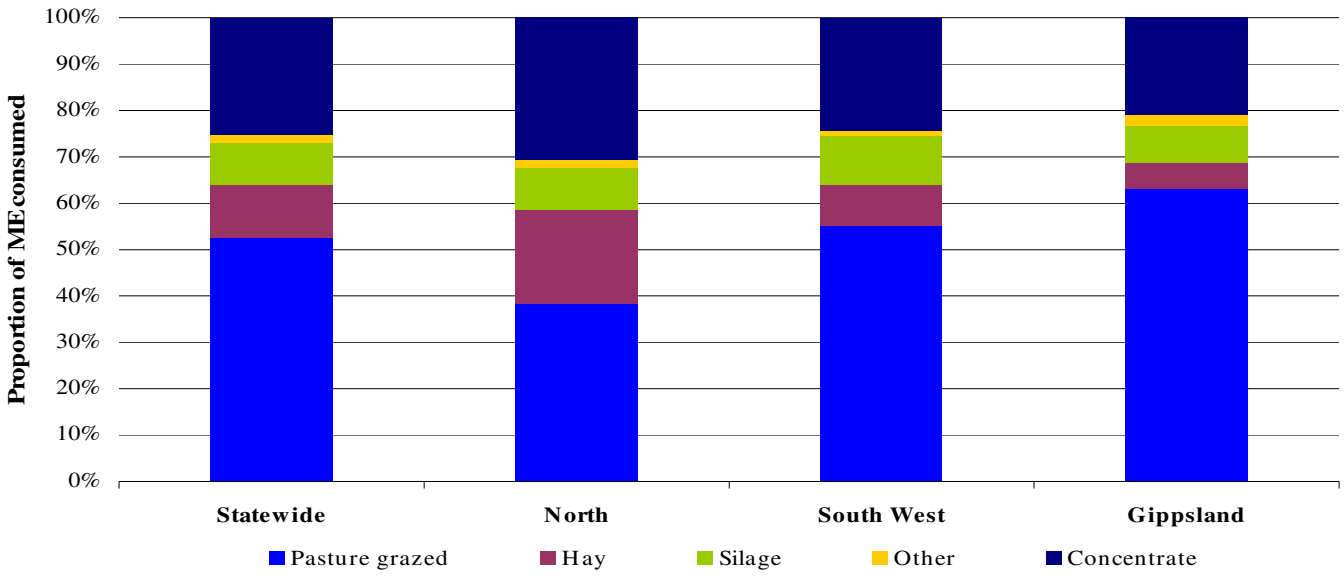
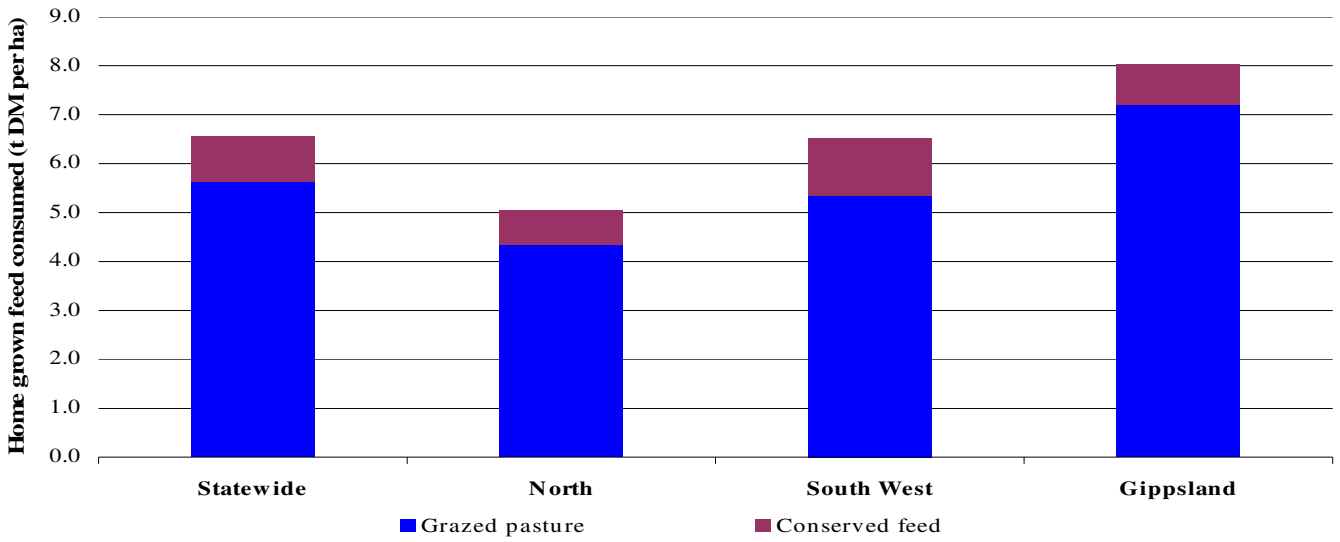


Figure 8 shows the average estimated home grown feed consumption per hectare. Both Figures 7 and 8 were estimated using an **Energetics method**. This involves first a calculation of the total energy required on the farm, which is a factor of stock numbers held on the farm, the stock weights, distance the stock walks to the dairy on average and 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 gown feed produced per hectare will be dependent on numerous factors, with water availability, fertiliser application rates and grazing management being central. The lack of total water available in the North will have had a marked affect on the group average. The average estimates were, as grazed feed and conserved feed, 4.3t/ha and 0.7t/ha for the North, 5.3t/ha and 1.2t/ha for the South West and 7.2t/ha and 0.8 t/ha for Gippsland.

Appendix Tables 2 give estimates of individual tonnes of home grown feed consumed per hectare.

FIGURE 8: ESTIMATED TONNES OF HOME GROWN FEED CONSUMED PER HECTARE

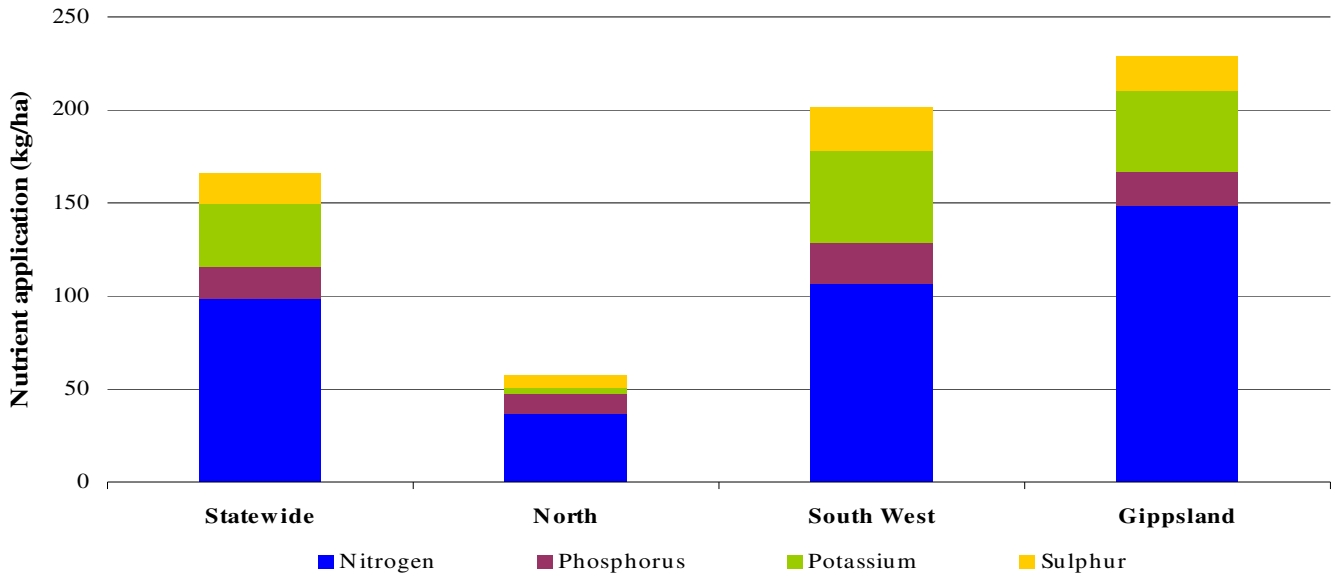


FERTILISER APPLICATION

Figures 8 and 9 do not show a direct relationship between estimated home grown feed consumed and fertiliser applied per hectare. 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. Gippsland and the South West had similar rates of application of key macronutrients, with the exception of nitrogen application. Participants in Gippsland spread 148kg/ha of nitrogen compared to 106kg/ha in the South West. Approximately three quarters of the nutrients spread on farms in the North were applied to the irrigated portion of the total useable area in 2008/09.

Appendix Tables 2 give further information on fertiliser application.

FIGURE 9: NUTRIENT APPLICATION PER HECTARE

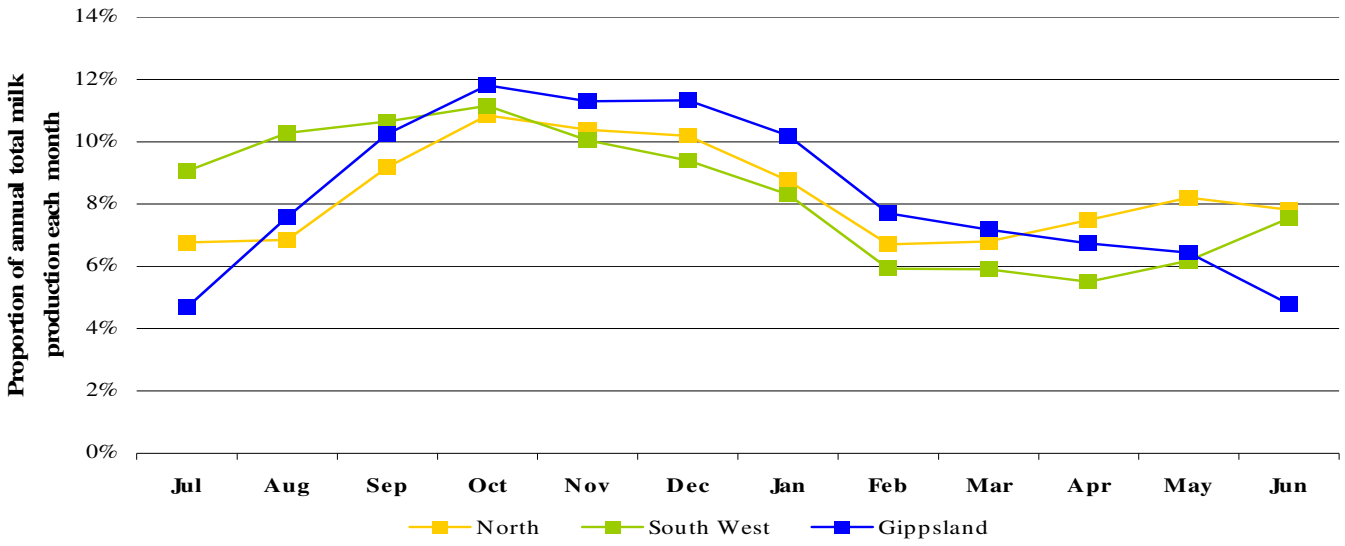


The use of fertiliser and digestion of feed in the rumen are major sources of greenhouse gases on dairy farms. A summary of greenhouse gas emissions can be found on page 48 of this report.

MILK PRODUCTION

Average distribution of milk production in all regions saw the main production peak in spring, but only the North saw another small peak in autumn 2009. Gippsland farms on average experienced the most rapid increase in production coming into the 2008 spring, going from 4.7% of total production in July to 11.8% by October. The South West had a smoother distribution pattern with production spread throughout the growing season.

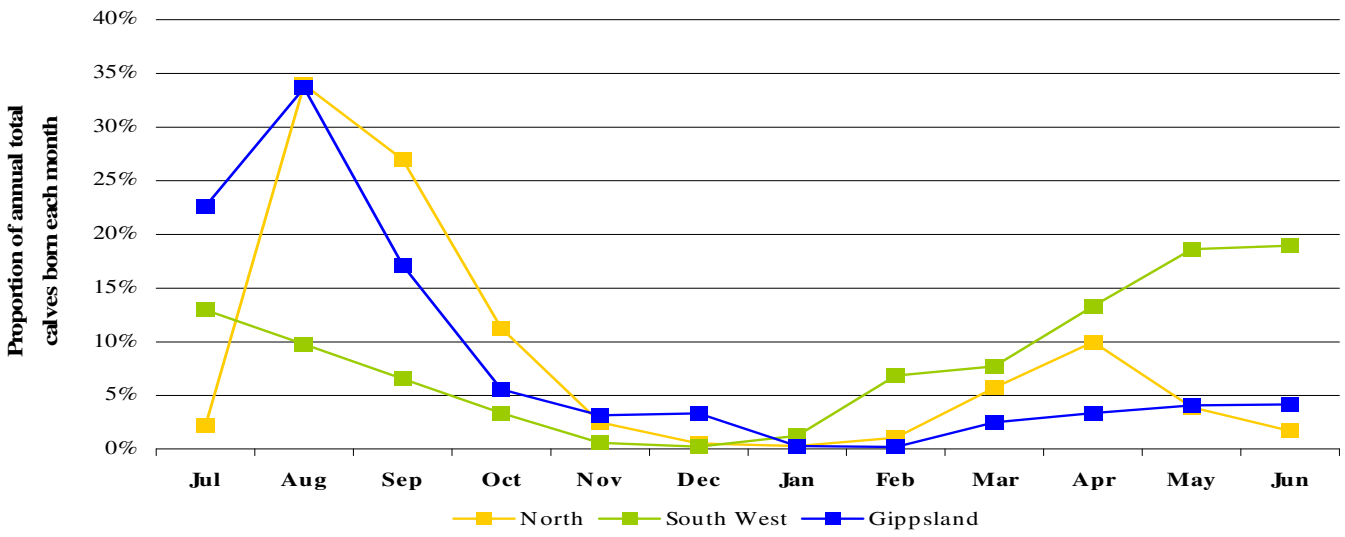
FIGURE 10: MONTHLY DISTRIBUTION OF MILK PRODUCTION



CALVING PATTERN

The milk production shown in Figure 10 follows a similar pattern to the calving pattern shown in Figure 11 below, with a two to three month delay between calving and peak lactation. This can be seen best in the peak production and peak calving times. Gippsland had a very concentrated calving pattern, with one-third of all calves born in August and 73% born from July to September. Less than 4% of calves were born in Gippsland during the summer months. The North achieved a similarly concentrated calving pattern, with 34% of calves born in August and 72% between August and October. The smoother milk production curve of the South West across winter and spring mirrors the flatter calving pattern.

FIGURE 11: MONTHLY DISTRIBUTION OF CALVES BORN

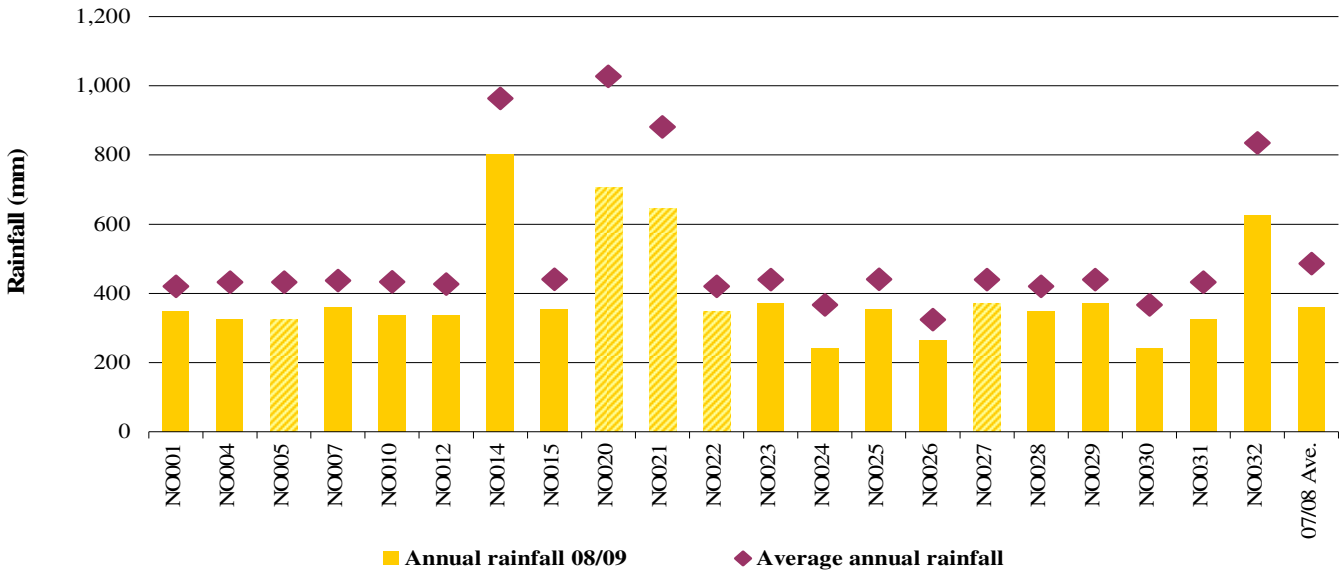


PART THREE: NORTH

Farms ranked in the top 25% by earnings before interest and tax per hectare are shown as the striped bars in all graphs. All farms in the 2008/09 sample were participants in the 2007/08 project, excluding NO030 to NO032. Farms NO001 to NO015 were also participants in the 2006/07 sample. Please refer to page 6 for notes on the presentation of data.

2008/09 SEASONAL CONDITIONS

FIGURE 12: 2008/09 ANNUAL RAINFALL AND LONG TERM AVERAGE RAINFALL – NORTH



Difficult seasonal conditions were again experienced by participants across the North during the 2008/09 year. Average annual rainfall ranged between 66% and 84% of individual long term average rainfall. This combined with a reduced irrigation allocation and the availability and cost of supplementary feed compounded the hardship experienced by many farmers across the North of Victoria. The final irrigation allocation for 2008/09 on the Murray system was 35% and the Goulburn system was 33%. Having the cash flow to source good quality feed also became an issue for many dairy farmers in the region post the drop in milk prices.

WHOLE FARM ANALYSIS

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

The top 25% of farms ranked on earnings before interest and tax per hectare had higher annual rainfall, greater total useable area in hectares and grew more home grown feed as % of ME consumed. These top farms also sold more milk solids per hectare and per cow.

TABLE 4: FARM PHYSICAL DATA – NORTH

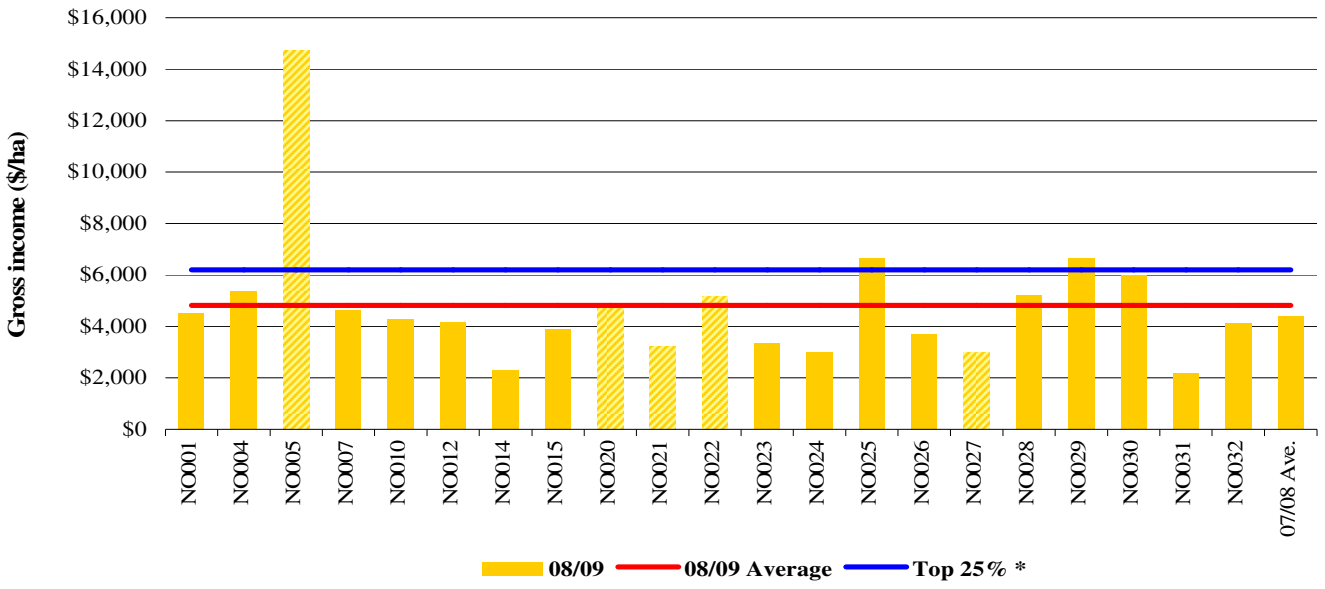
Farm physical parameters	North average	Q1 to Q3 range	Top 25% average
Annual Rainfall 08/09	400	325 - 370	478
Water used (irrigation + rainfall) (mm/ha)	528	423 - 626	618
Total Useable Area (Hectares)	245	116 - 291	370
Milking cows per useable hectares	1.6	1.1 - 2.0	1.7
Milk Sold (kg MS /ha)	500	468 - 543	514
Milk Sold (kg MS /cow)	784	602 - 870	871
Home grown feed as % of ME consumed	46%	34% - 60%	58%
People productivity (milking cows / FTE)	103	70 - 122	117
People productivity (kg MS / FTE)	51,112	32,634 - 62,013	60,446

GROSS FARM INCOME

Gross farm income includes all farm income, whether that is income from milk sales, an increase in inventories of stock or feed or cash income from livestock trading. The top 25% of farms had a higher gross income at $6,198/ha compared with the average at $4,811/ha, as shown in Figure 13. The average gross income increased by about 10%, up from $4,390/ha in 2007/08.

It also shows that the top performing farms ranked on earnings before interest and tax per hectare did not necessarily have the highest gross income per hectare.

FIGURE 13: GROSS FARM INCOME PER HECTARE – NORTH

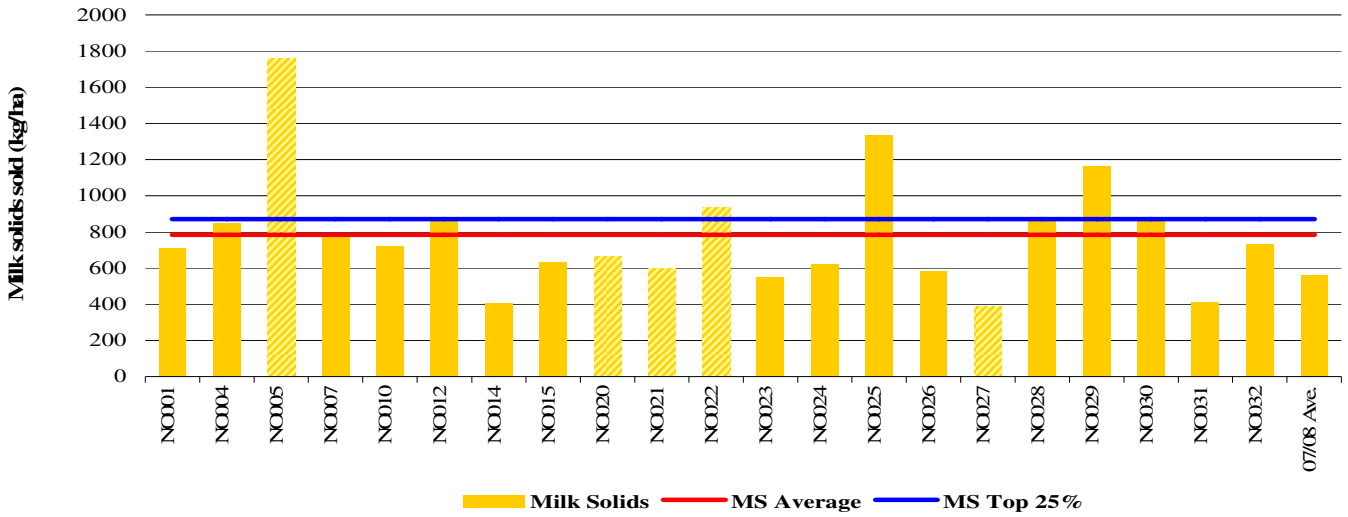


It should be noted that the impact of the ongoing drought and low water allocations has meant that most farmers have changed their farming system to be more reliant on purchased feed. This means these farms have a high percentage of imported feed, which can be seen in Appendix Table A2. This has impacted on the per hectare indicators.

MILK SOLIDS PRODUCTION

Figures 13 and 14 show the strong correlation between income and milk solids sold per hectare as income is primarily driven by the quantity of milk solids sold. The top 25% of farms in the North produced an average of 871 kg MS/ha, 11% more than the whole group average of 784 kg MS/ha.

FIGURE 14: MILK SOLIDS SOLD PER HECTARE – NORTH

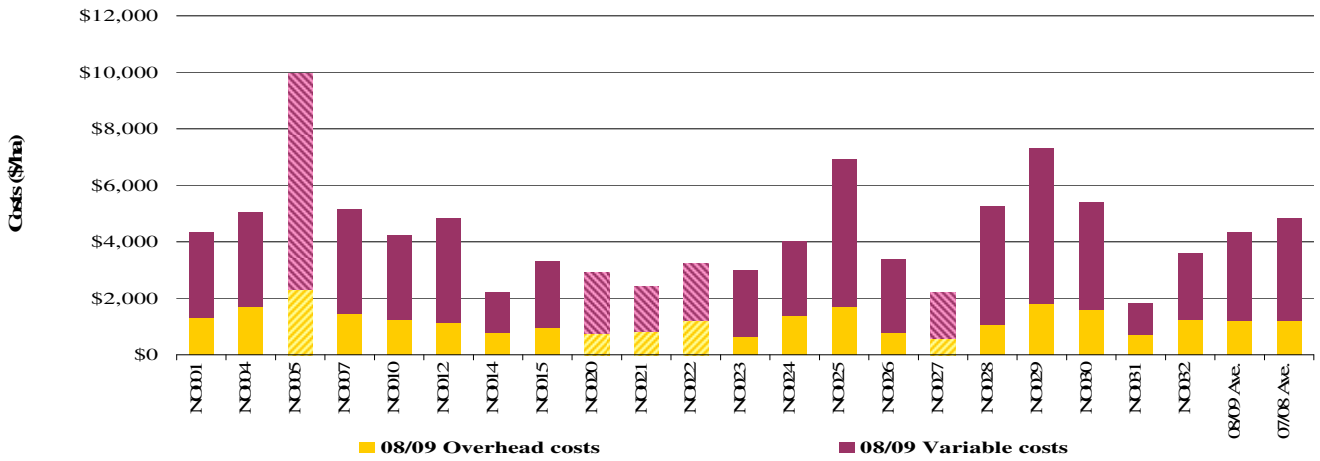


VARIABLE COSTS

Variable costs ranged from $1,118/ha to $7,637/ha for the North in 2008/09. This wide range in total variable costs per hectare is seen in Figure 15. The average for the region, presented as the second last bar on the right of Figure 15, was $3,117/ha, down from $3,615/ha last year. Interestingly overhead costs for 2008/09 remained similar to 2007/08 levels suggesting farms may have reduced spending on production related expenses at the onset of the milk price drop, thus reducing variable, and therefore whole farm costs. The percentage breakdown of the individual totals expressed as percentages is presented in Appendix Table A6.

Variable costs account for 72% of total costs on a per hectare basis for participant farms in the North region in 2008/09. Feed costs are clearly the major variable cost representing 65% of total costs of production and 91% of variable costs for the average group. A break down of variable costs for the individual businesses on a $/kg MS basis can be seen in Appendix Table A4.

FIGURE 15: WHOLE FARM VARIABLE AND OVERHEAD COSTS PER HECTARE – NORTH



OVERHEAD COSTS

Figure 15 illustrates the range spent on overhead costs per hectare, which includes imputed labour and depreciation. This range of expenditure on overhead costs was from $589/ha to $2,320/ha for farms in the North in 2008/09.

The main overhead cost categories include depreciation, people cost and repairs and maintenance. A breakdown of the overhead costs can be obtained in Appendix Table A5 and A7.

COST OF PRODUCTION

Figure 15 and Table 5 present both variable and overhead costs to give the total cost of production per hectare and per kilogram of milk solids sold respectively. 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, ie EBIT/kg MS.

Table 5 shows that the top 25% of farms had equal or lower costs per kilogram of milk solids sold in most categories when compared to the average of the entire North. In particular, the top 25% farms spent 17% less on purchased feed, inventory loss and agistment.

TABLE 5: COST OF PRODUCTION - NORTH

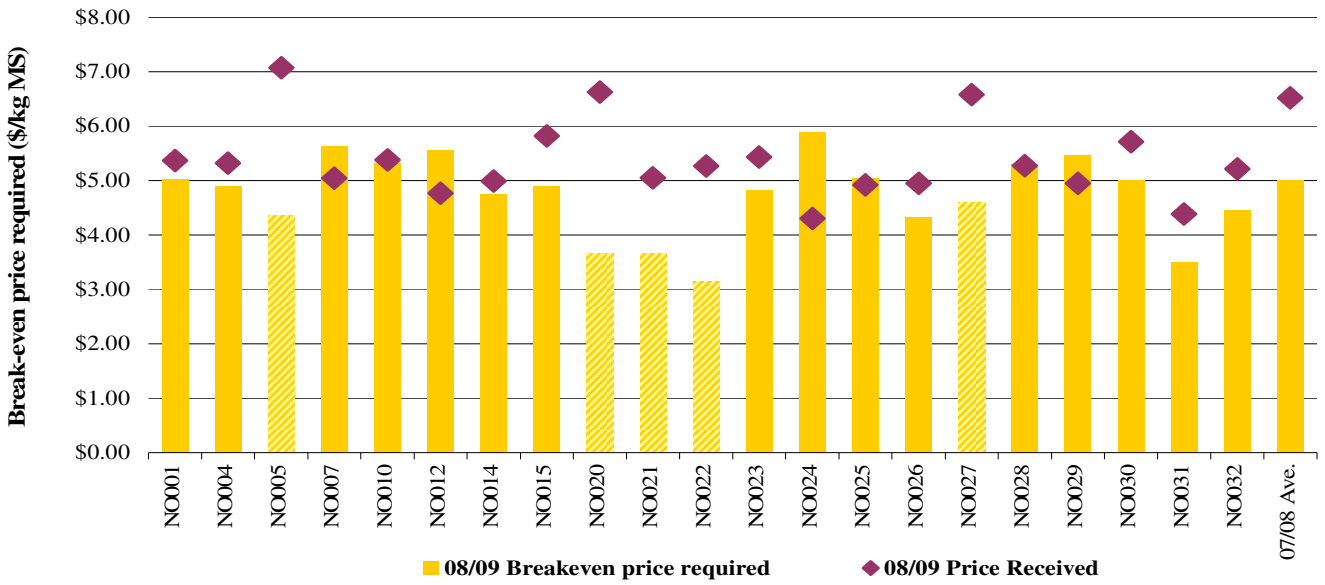
Farm costs ($/kg MS)	North average	Q1 to Q3 range	Top 25% average
VARIABLE COSTS			
Herd costs	0.21	0.16 - 0.27	0.18
Shed costs	0.13	0.11 - 0.16	0.14
Purchased feed, inventory loss and agistment	2.67	1.99 - 3.40	2.21
Home grown feed cost	0.80	0.50 - 1.02	0.92
Livestock trading loss	0.00	0.00 - 0.00	0.00
Total variable costs ($ / kg MS)	3.81	3.56 - 4.33	3.45
OVERHEAD COSTS			
Rates	0.02	0.01 - 0.02	0.02
Registration and Insurance	0.01	0.02 - 0.05	0.01
Farm Insurance	0.04	0.18 - 0.31	0.03
Repairs and Maintenance	0.27	0.00 - 0.02	0.27
Bank Charges	0.02	0.06 - 0.11	0.01
Other Overheads	0.10	0.11 - 0.46	0.10
Employed People Cost	0.28	0.57 - 0.95	0.26
Total cash overheads	0.74	0.01 - 0.03	0.69
Depreciation	0.16	0.07 - 0.22	0.14
Imputed People Cost	0.66	0.46 - 0.81	0.59
Total overhead costs ($ / kg MS)	1.56	1.31 - 1.82	1.42
Total cost of production ($ / kg MS)	5.37	5.18 - 6.03	4.87

BREAK-EVEN PRICE REQUIRED

The break-even price required for milk is calculated as the cost of production less any livestock trading profit or increase in feed inventory or other income. That is; the sum of variable and overhead costs, livestock trading loss and decrease in feed inventory, less any livestock trading profit, increase in feed inventory or other income.

Figure 16 shows that the break-even price required varies from $3.15 per kg MS to $5.89 per kg MS and the price received varies from $4.30 per kg MS to $7.07 per kg MS. The results show that 6 of the 21 participant farms did not achieve a profit which is shown where the purple diamond is below the yellow column. The difference between the price received and the break-even price required is the earnings before interest and tax per kilogram of milk solids.

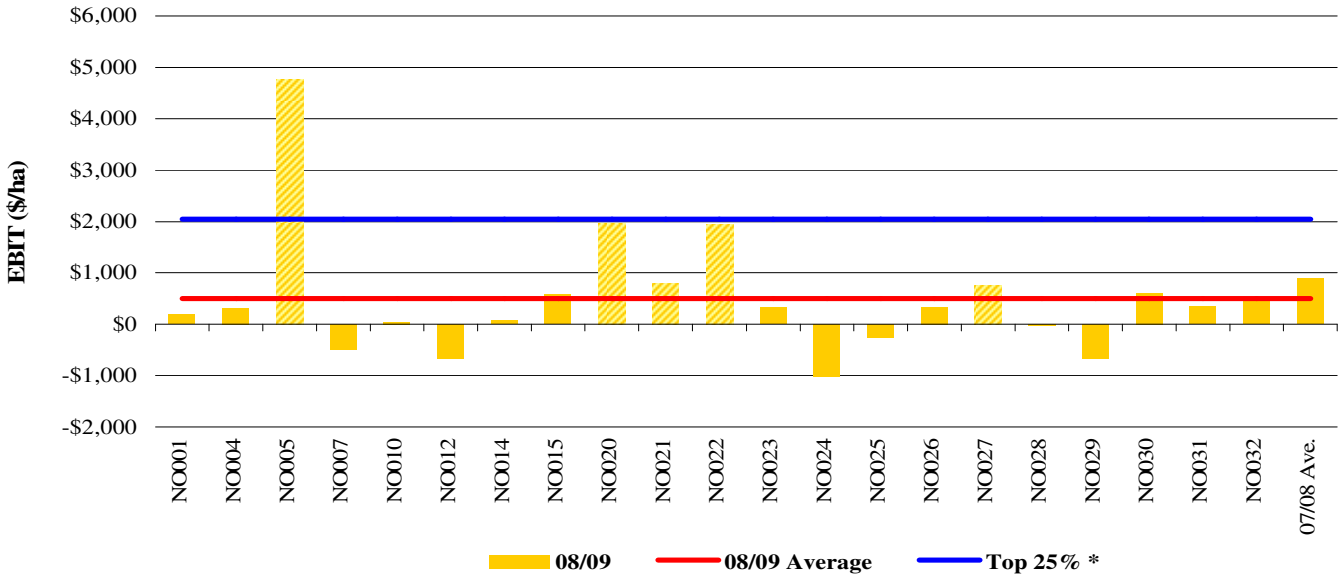
FIGURE 16: BREAK-EVEN PRICE REQUIRED PER KILOGRAM OF MILK SOLIDS SOLD – NORTH



EARNINGS BEFORE INTEREST AND TAX

Earnings before interest and tax is gross income, less variable costs and overhead costs. Figure 17 shows that the majority (76%) of farms in the North achieved a positive earnings before interest and tax in the 2008/09 year. This positive return was achieved despite the low rainfall, low water allocations, high feed costs and the drop in milk price. The group average decreased this year to $494/ha compared to $890/ha last year.

FIGURE 17: WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER HECTARE – NORTH

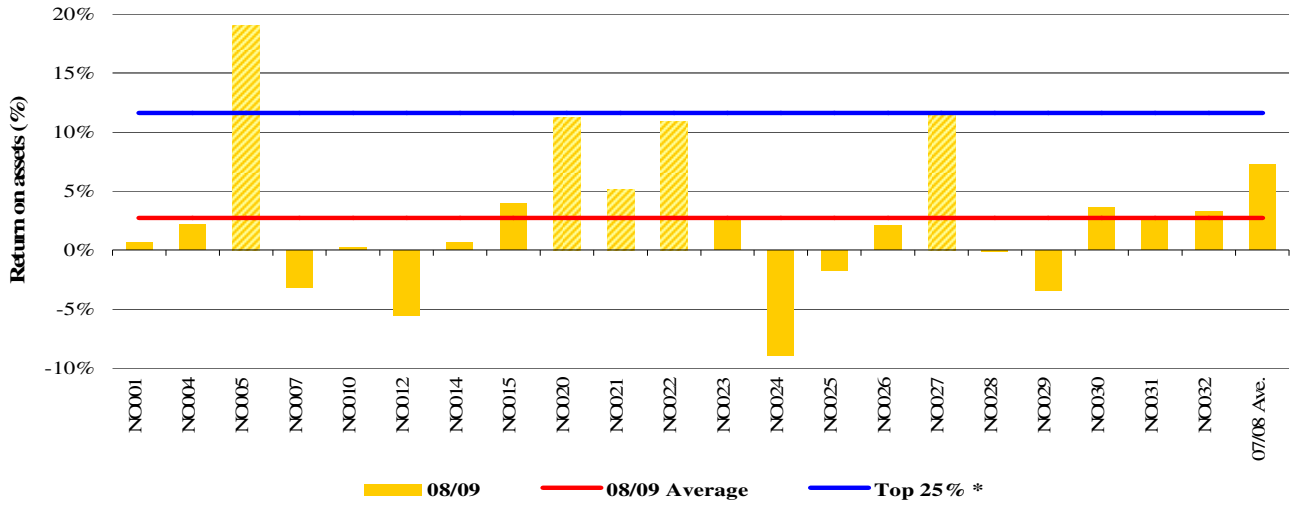


RETURN ON ASSETS AND EQUITY

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 business profit expressed as a percentage of owner equity. It is a measure of the owner's rate of return on investment. Figures 18 and 19 were calculated excluding capital appreciation. For return on equity including capital appreciation refer to Appendix Table A1.

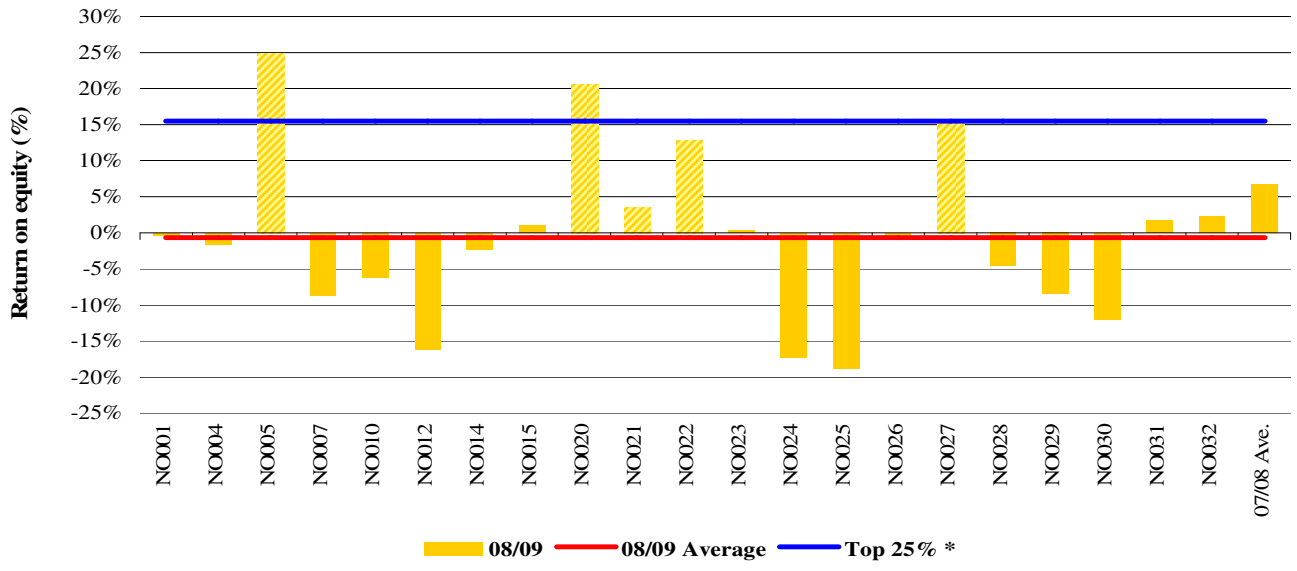
Figure 18 shows the distribution of return on assets in 2008/09. The group achieved an average return on assets of 3% while the top 25% achieved 12%. Observably, the same farms that had a negative EBIT have a negative return on assets.

FIGURE 18: RETURN ON ASSETS – NORTH



The distribution of return on equity in 2008/09 is shown in Figure 19. Only four farms outside the top 25% achieved a positive return on equity. As a whole, the North achieved an average return on equity of -1% and the top performers achieved 15%. This group average is noticeably lower than last year's group average of 7%. Over half the farms in the North recorded a negative return on assets meaning they are worth less now than they were 12 months ago.

FIGURE 19: RETURN ON EQUITY – NORTH



FEED CONSUMPTION

Feed data was collected on a whole farm basis, as determining which feeds went to each class of stock 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 20. The broad range of the different sources of metabolisable energy used on individual farms is evident. For 71% of the farms surveyed in the North, grazed pasture contributed less than half of the ME consumed on farm.

FIGURE 20: SOURCES OF WHOLE FARM METABOLISABLE ENERGY – NORTH

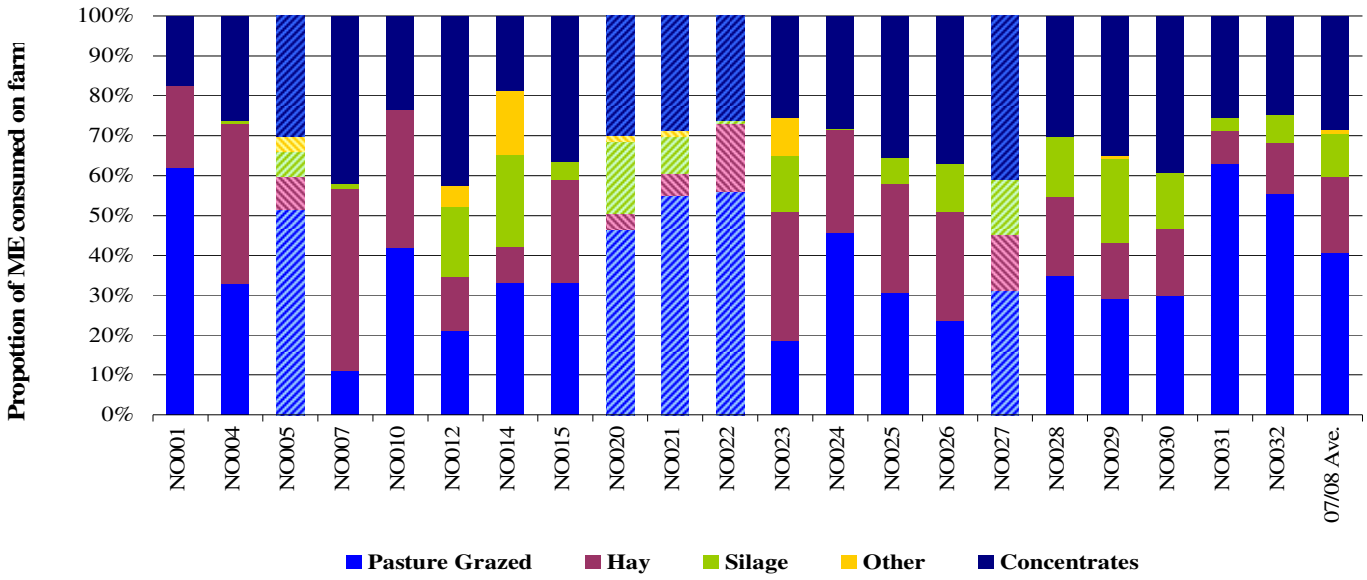
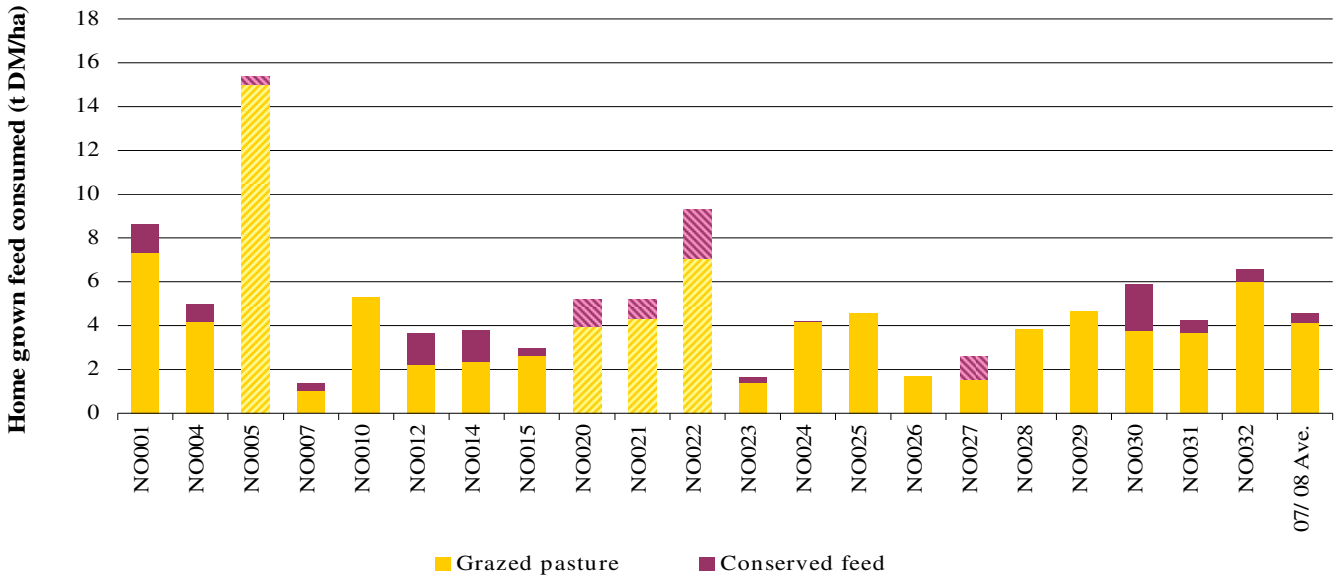


Figure 21 shows the estimated home grown feed consumption per hectare for farms in the North. The range is very large from 1t/ha to over 15t/ha, however the average was at the lower end of that range at 5 t/ha. This regional average is consistent with home grown feed consumption from last year.

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 on page 16 of Part Two – Statewide or in Appendix E.

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

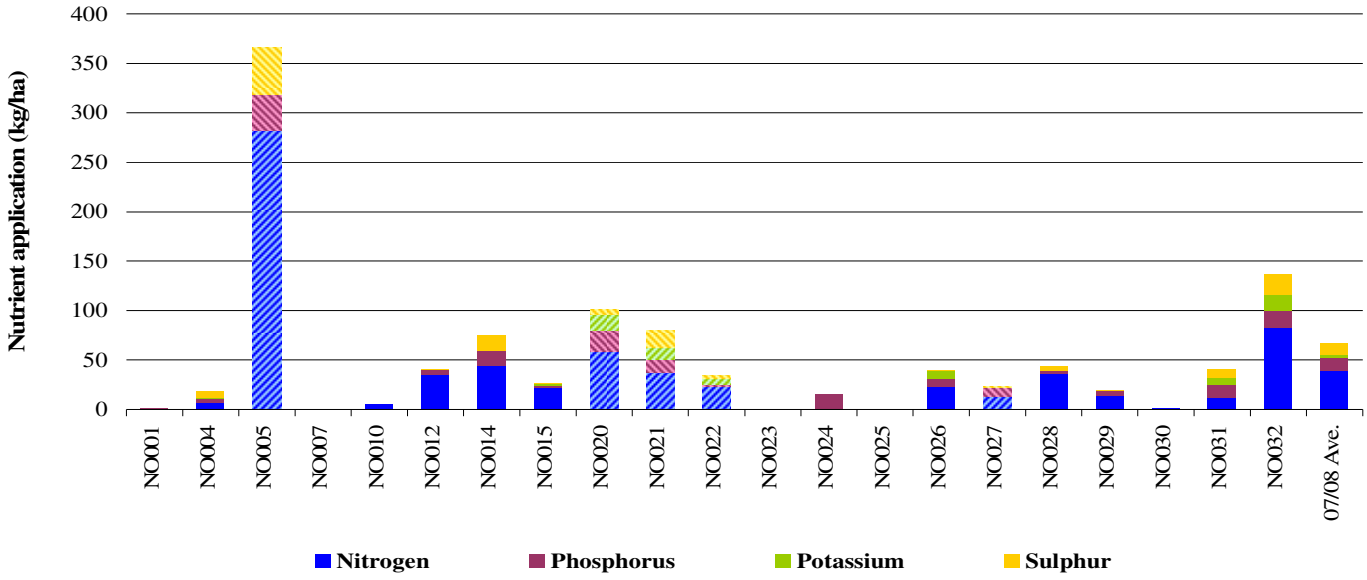


FERTILISER APPLICATION

The relationship between nutrient application per hectare and home grown feed (tonnes of DM/ha) during 2008/09 is shown in Figures 21 and 22. Most of the top 25% of farmers applied the greatest amount of fertiliser per hectare and consequently had the greatest amount of home grown feed.

Three quarters of fertiliser applied in the North was on irrigated land.

FIGURE 22: NUTRIENT APPLICATION PER HECTARE – NORTH

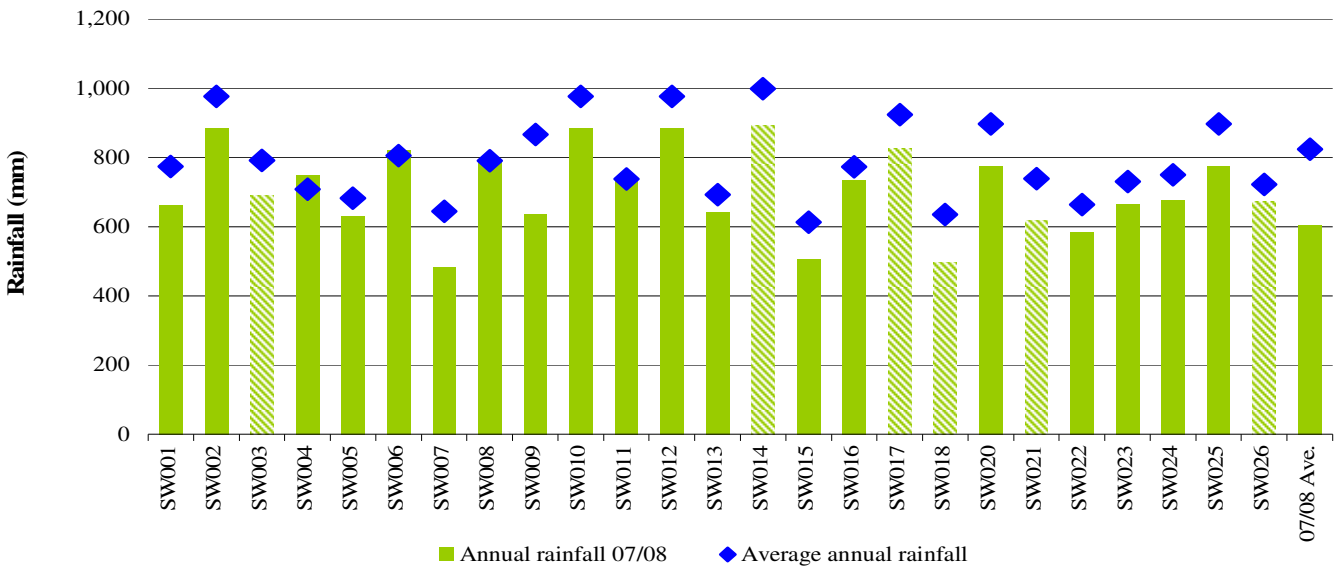


PART FOUR:
SOUTH WEST

Farms ranked in the top 25% by earnings before interest and tax per hectare are shown as the striped bars in all graphs. Farms SW001 to SW 018 and SW021 to SW025 were included in the 2007/08 sample. All farms except SW026 were involved in the 2006/07 sample. Please refer to page 6 for notes on the presentation of data.

2008/09 SEASONAL CONDITIONS

FIGURE 23: 2008/09 ANNUAL RAINFALL AND LONG TERM AVERAGE RAINFALL – SOUTH WEST



Rainfall for South West participant farms during the 2008/09 and their corresponding average annual rainfall are shown in Figure 23. Rainfall totals were between 80% and 106% of the individual long term averages, excluding farms SW007 and SW009 who received 75% and 73% respectively.

During 2008/09 the South West generally had poorer than usual spring, with lower quantities of hay and silage made than the previous year. A hot dry summer saw lower than average yields from fodder crops. The autumn break was reasonable; however minimal rain in May has affected the yields of newly sown pastures. The eastern reaches of the region were drier than those further to the west. Appendix Table B2 gives further data on total rainfall and water used.

WHOLE FARM ANALYSIS

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

The average and top 25% of farms ranked on earnings before interest and tax per hectare had very similar rainfall and useable area. However the key areas where the top 25% of farms did distinguish themselves from the regional average were with milk production, both as per cow and per hectare and people productivity, both as milking cows/FTE and per kg MS/FTE. Interestingly farms in the top 25% on average were stocked at a lower rate, in terms of milking cows per hectare compared to the average.

TABLE 6: FARM PHYSICAL DATA – SOUTH WEST

Farm physical parameters	South West average	Q1 to Q3 range	Top 25% average
Annual rainfall 08/09	707	634 - 788	699
Water used (irrigation + rainfall) (mm/ha)	719	634 - 826	704
Total useable area (hectares)	330	154 - 417	332
Milking cows per useable hectares	1.3	1.1 - 1.4	1.2
Milk sold (kg MS /cow)	510	452 - 558	589
Milk sold (kg MS /ha)	649	565 - 742	717
Home grown feed as % of ME consumed	68%	63% - 73%	66%
People productivity (milking cows / FTE)	93	76 - 109	100
People productivity (kg MS / FTE)	47,118	39,347 - 52,963	58,015

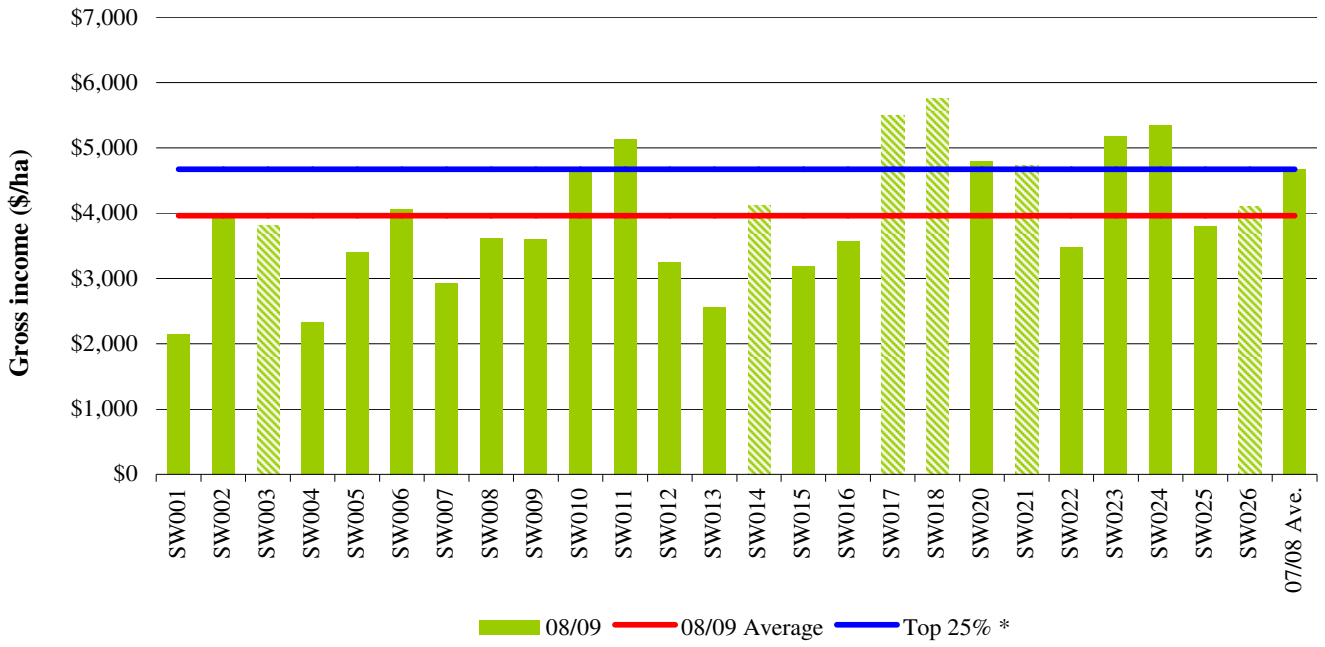
GROSS FARM INCOME

Gross farm income includes all farm income, whether that is income from milk sales, an increase in inventories of stock or feed, cash income from livestock trading, or income from other sources such as farm owned shares, interest from bank accounts and rebates or grants. Gross farm income as per kilogram of milk solids sold can be found in Appendix Table B1.

Figure 24 shows that gross income in the South West ranged from $2,142 per hectare to $5,736/ha. In comparison with gross farm income from last year of $4,678/ha, this year's average of $3,964/ha is considerably lower but equal to the top 25% of farms of $4,674/ha. This is shown in Figure 24 where the top 25% income line rests on top of the last bar.

Although on average the top 25% of farms had a higher gross income than the South West group, it can also be seen that numerous farms not in the top 25% had a gross income that was similar to three of the six farm in that group. This suggests that the other three farms in the top 25% (SW003, SW014 and SW026) had other attributes such as low costs (see figure 26) that pushed them into the top 25%.

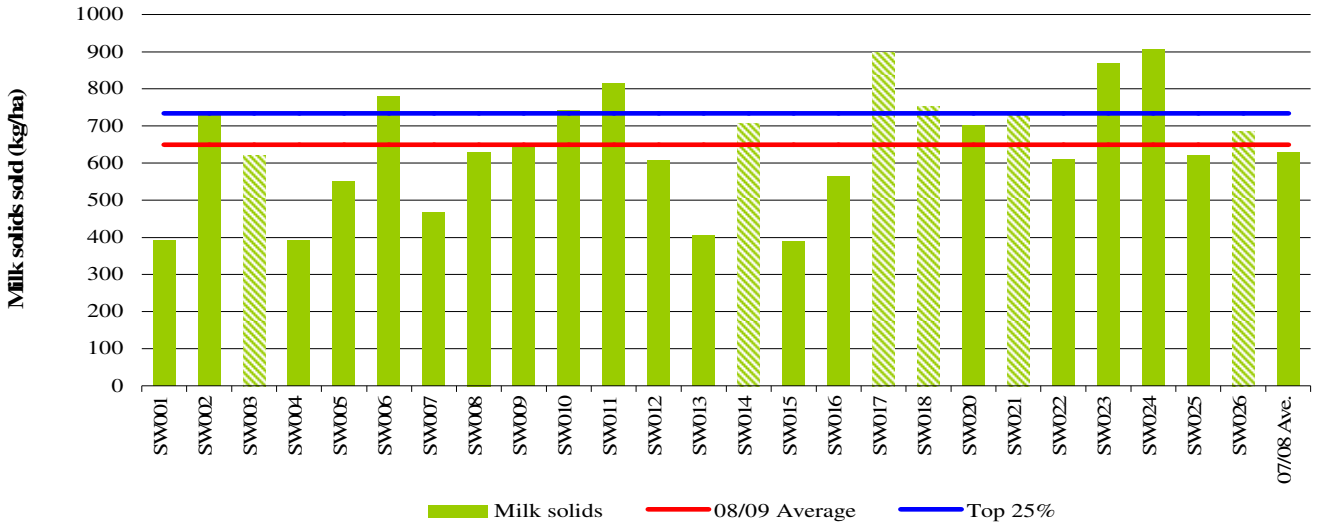
FIGURE 24: GROSS FARM INCOME PER HECTARE – SOUTH WEST



MILK SOLIDS PRODUCTION

The strong correlation between income and milk solids per hectare can be seen in Figures 24 and 25. The variation between these figures is a result of other sources of income. The top performing farms achieved 733 kg MS/ha in the South West compared to the average farm who sold 649 kg MS/ha. This group average is slightly up from the previous year of 605 kg MS/ha.

FIGURE 25: MILK SOLIDS SOLD PER HECTARE – SOUTH WEST



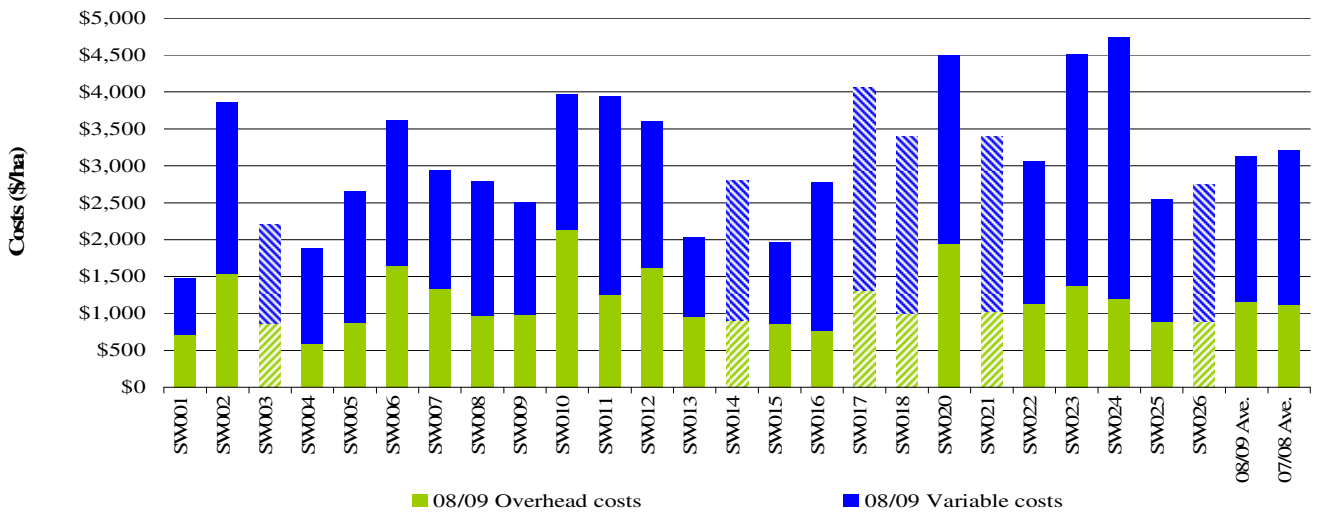
VARIABLE COSTS

Variable costs for the South West region varied from $763/ha to $3,541/ha. Feed costs were clearly the major variable cost in dairy farms of the South West; 55% of total costs of production were feed costs which equates to 87% of the total variable costs.

The separation of variable and overhead costs per hectare is shown in Figure 26. For all the variable cost categories, the difference between the whole group average and the top 25% was not significant.

The percentage breakdown of the variable costs can be found in Appendix Table B6 which gives the values at dollars per kilogram of milk solids sold.

FIGURE 26: WHOLE FARM VARIABLE AND OVERHEAD COSTS PER HECTARE – SOUTH WEST



OVERHEAD COSTS

Figure 26 also illustrates the variation in overhead costs per hectare between participant farms. Values ranged from $593 to $2,132 per hectare. There was not a large difference in the average overhead cost for the South West group and the top 25% average despite the large variation between individual farms. The average group recorded $1,153/ha and the top 25% recorded $1,005/ha.

Table 7 and Appendix Table B7 show that the cost of people in the business is the major overhead cost, accounting for 58% of total overhead costs in the South West. Repairs and maintenance and depreciation were the other two major overhead costs.

COST OF PRODUCTION

Figure 26 and Table 7 present both variable and overhead costs to give total cost of production per hectare and per kilogram of milk solids sold respectively. Cost of production is a useful risk ratio as it calculates the costs 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 WEST

Farm costs ($ / kg MS)	South West average	Q1 to Q3 range	Top 25% average
VARIABLE COSTS			
Herd costs	$0.22	$0.16 - $0.26	$0.20
Shed costs	$0.15	$0.10 - $0.17	$0.13
Purchased feed, inventory loss and agistment	$1.70	$1.49 - $2.15	$1.69
Home grown feed cost	$0.85	$0.73 - $0.95	$0.78
Livestock trading loss	$0.00	$0.00 - $0.00	$0.00
Total variable costs ($ / kg MS)	$2.93	$2.69 - $3.29	$2.80
OVERHEAD COSTS			
Rates	$0.04	$0.01 - $0.02	$0.03
Registration and Insurance	$0.01	$0.03 - $0.07	$0.02
Farm Insurance	$0.05	$0.18 - $0.31	$0.03
Repairs and Maintenance	$0.27	$0.00 - $0.01	$0.22
Bank Charges	$0.04	$0.07 - $0.12	$0.00
Other Overheads	$0.10	$0.14 - $0.62	$0.07
Employed People Cost	$0.40	$0.63 - $1.11	$0.33
Total cash overheads	$0.92	$0.03 - $0.05	$0.70
Depreciation	$0.24	$0.14 - $0.25	$0.17
Imputed People Cost	$0.65	$0.43 - $0.75	$0.51
Total overhead costs ($ / kg MS)	$1.81	$1.41 - $2.10	$1.38
Total cost of production ($ / kg MS)	$4.73	$4.44 - $5.20	$4.17

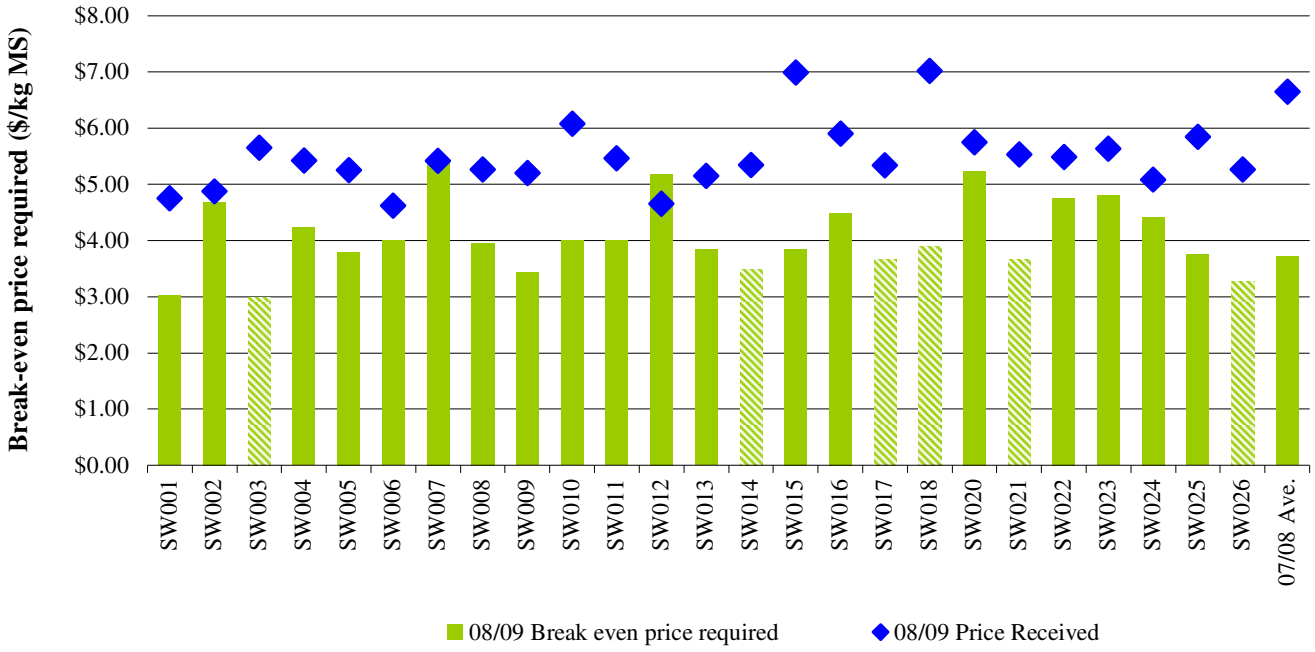
BREAK-EVEN PRICE REQUIRED

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

Figure 27 shows that the break-even price required varied from $2.99 per kg MS to $5.44 per kg MS in the South West. 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.

There is no clear link between those farms with higher break-even price required and per hectare cost, income or EBIT. This highlights the fact that values presented as dollars per kilogram milk solids sold are most useful as risk ratios.

FIGURE 27: BREAK-EVEN PRICE REQUIRED PER KILOGRAM OF MILK SOLIDS SOLD – SOUTH WEST

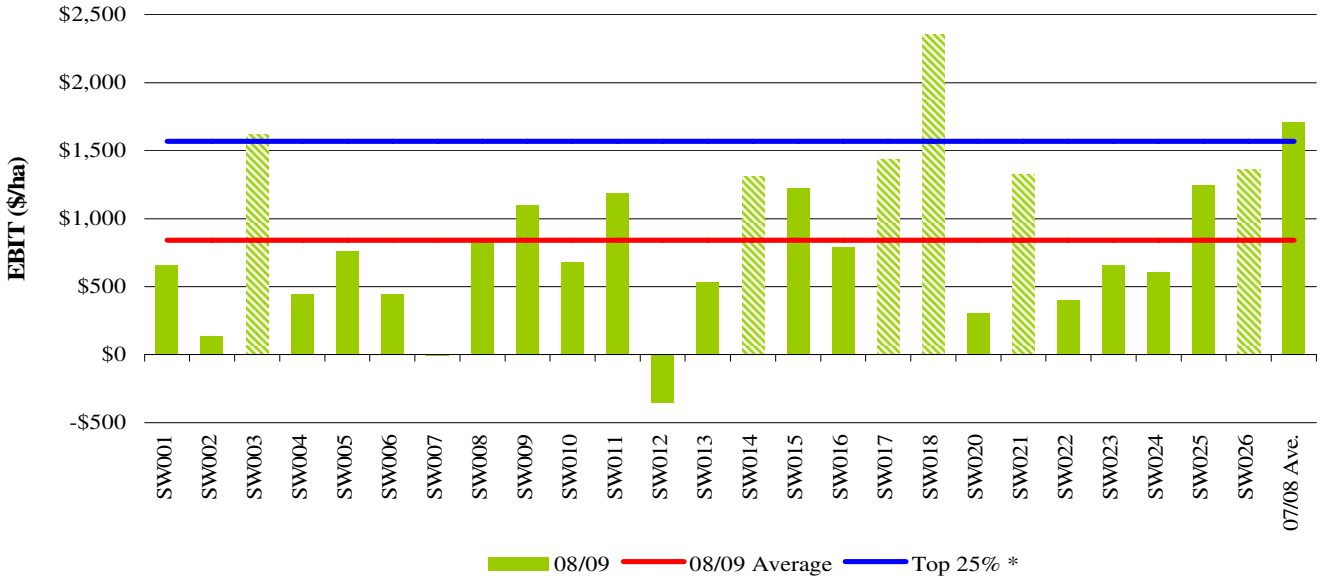


EARNINGS BEFORE INTEREST AND TAX

Earnings before interest and tax (EBIT) is calculated by subtracting enterprise costs and overhead costs, including imputed costs from gross income.

Across the South West 23 out of 25 farms achieved a positive EBIT for the 2008/09 year. Despite a lower region average this year the strength of financial performance in the region is again highlighted this year with the average EBIT for the region at $843/ha compared to the slightly lower state wide average of $790/ha.

FIGURE 28: WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER HECTARE – SOUTH WEST



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 29 and 30 were calculated excluding capital appreciation. For return on equity including capital appreciation, as well as individual farm results, refer to Appendix Table B1.

The return on assets for the South West region ranged from -2% to 10%. Average return on asset for the group was 4%, down from 12% last year, and the top 25% achieved double that of the group average with 8%.

The farms in the top 25% by earnings before interest and tax per hectare do not necessarily have the highest return on assets because their farm business assets per hectare may have been assessed at a higher value compared to other farms.

FIGURE 29: RETURN ON ASSETS – SOUTH WEST

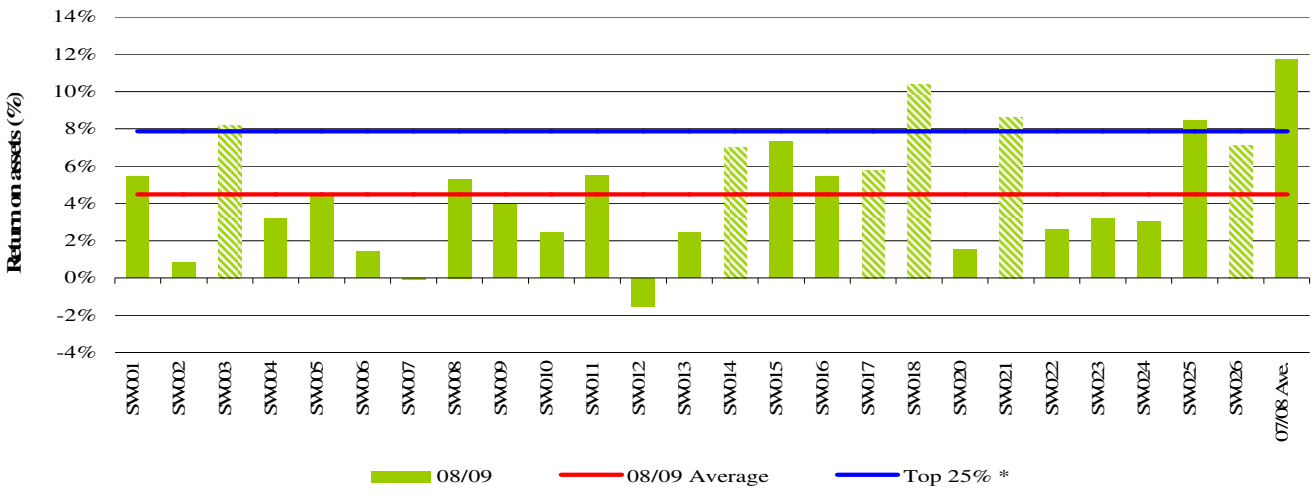
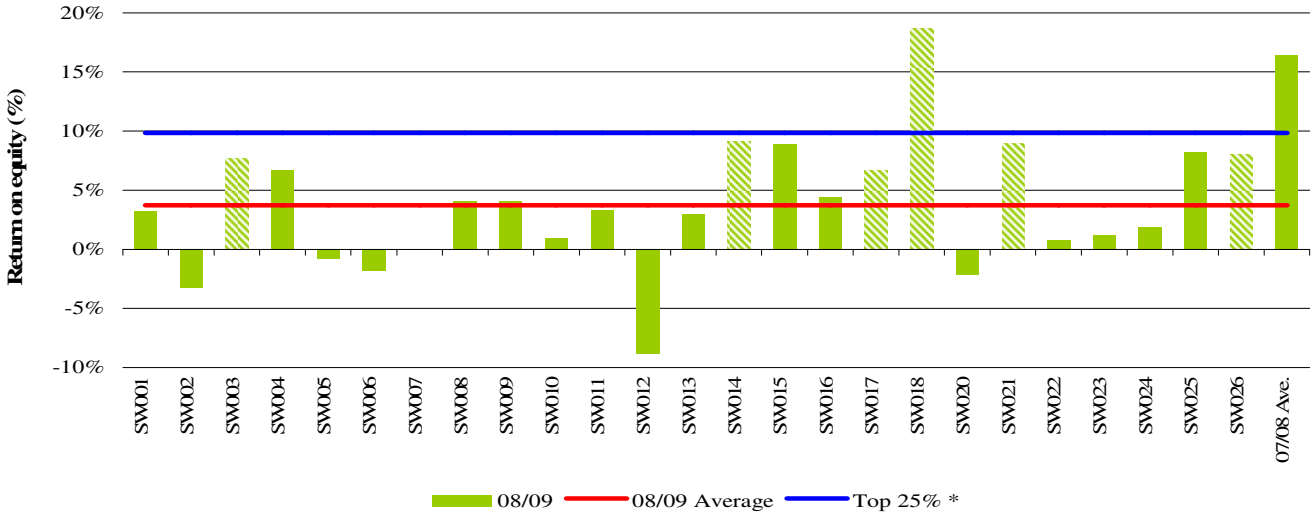


Figure 30 shows that the return on equity within the group ranged from -9% to 19% and averaged 4%. This is much lower than the previous year's average of 16%. This lower return on equity can be attributed to the lower EBIT achieved this year compared to last year.

FIGURE 30: RETURN ON EQUITY – SOUTH WEST

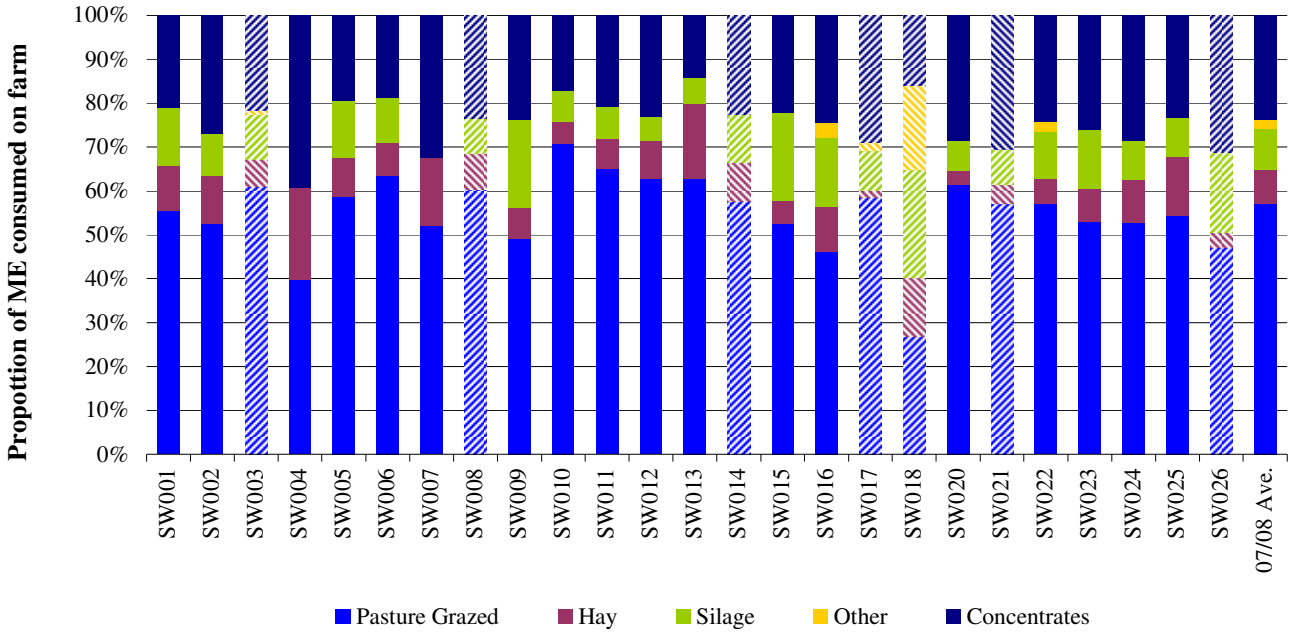


FEED CONSUMPTION

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 31 shows the relative contribution of each feed type to the ME consumption on the farm. Grazed pasture contributes at least half of the ME consumed on farm for 20 out of the total 25 farms in the South West in 2008/09. Overall this ranged from 21% to 71%.

'Other' sources of feed include sources that are not used by or available to dairy farmers on the common market. Palm Kernel Extract is included as a concentrate.

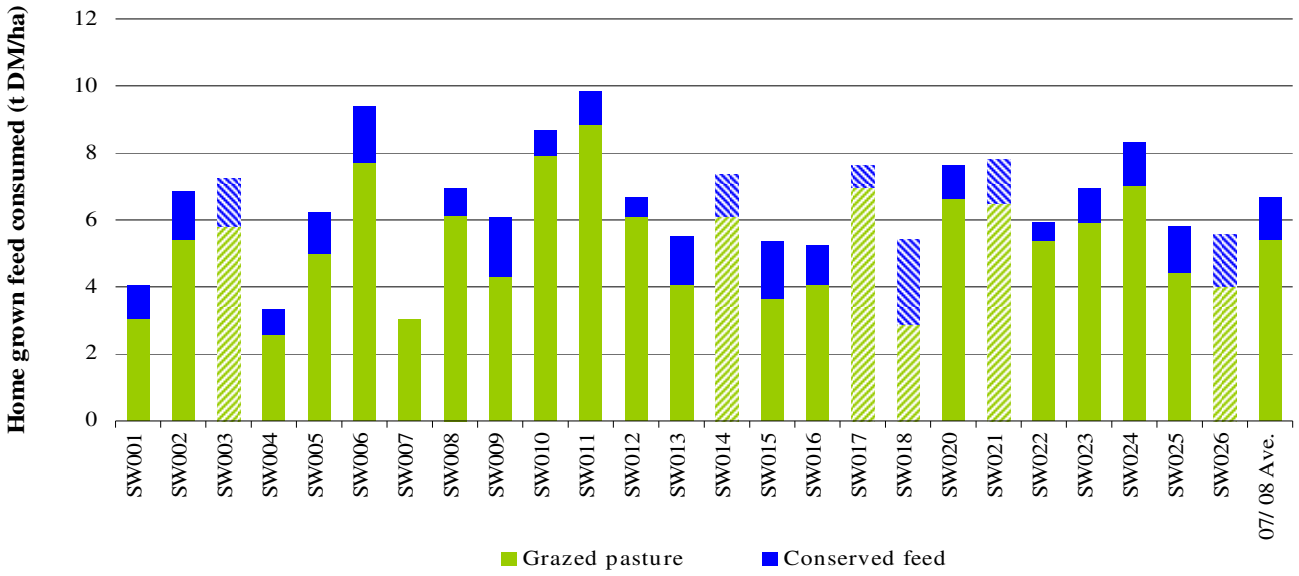
FIGURE 31: SOURCES OF WHOLE FARM METABOLISABLE ENERGY – SOUTH WEST



The estimated home grown feed consumed per hectare for farms in the South West is shown in Figure 32. This ranged from 3.0 tonnes of dry matter per hectare up to 9.9 t DM/ha.

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 32: ESTIMATED TONNES OF HOME GROWN FEED CONSUMED PER HECTARE– SOUTH WEST

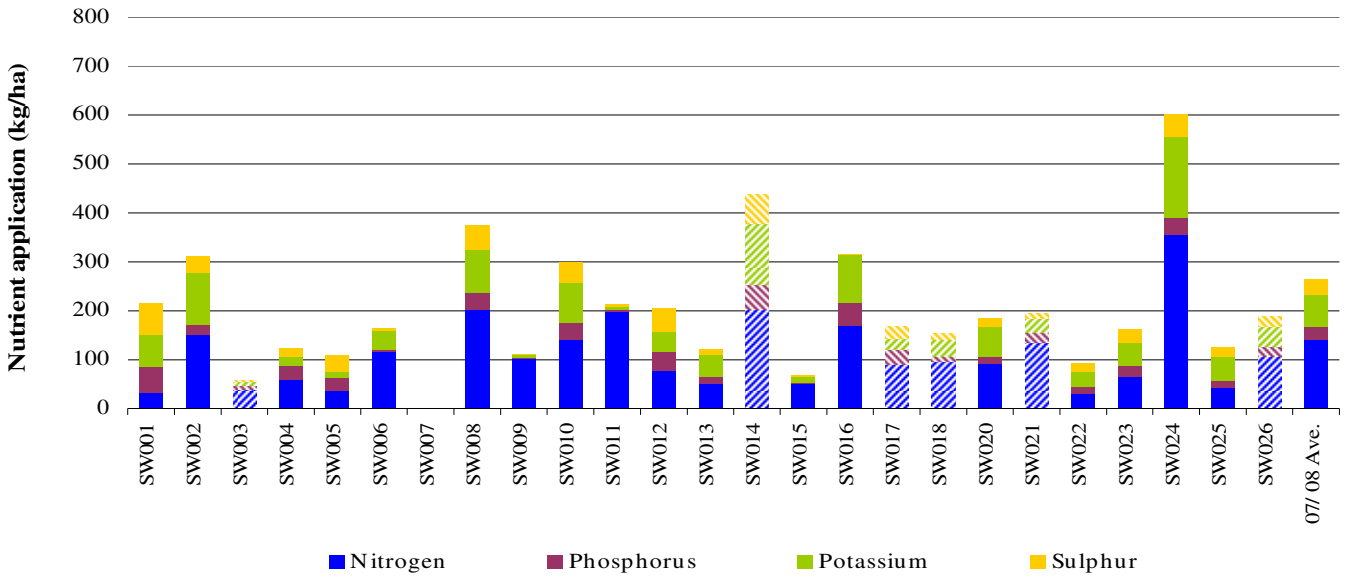


FERTILISER APPLICATION

The proportion of nutrients in fertiliser applied per hectare on farm is shown in Figure 33. Figures 32 and 33 do show some signs of correlation, but the influence of other factors beyond fertiliser application such as current soil fertility, climate and management of pastures can be attributable to the differences seen. Rates of nitrogen application averaged over the entire useable area of each farm varied substantially, from 29kg/ha (excluding the 0kg/ha value) to up to 357 kg/ha. The average was 106 kg/ha, which is down on last year average of 150 kg/ha.

The individual values relating to Figure 33 can be found in Appendix Table B2.

FIGURE 33: NUTRIENT APPLICATION PER HECTARE – SOUTH WEST



PART FIVE: GIPPSLAND

Farms ranked in the top 25% by earnings before interest and tax per hectare are shown as the striped bars in all graphs. Farms GI002 to GI017 are currently participating in the project for their 3rd year. Farms GI020 to GI031 were involved in the 2007/08 project. Please refer to page 6 for notes on the presentation of this data.

2008/09 SEASONAL CONDITIONS

FIGURE 34: 2008/09 ANNUAL RAINFALL AND LONG TERM AVERAGE RAINFALL – GIPPSLAND

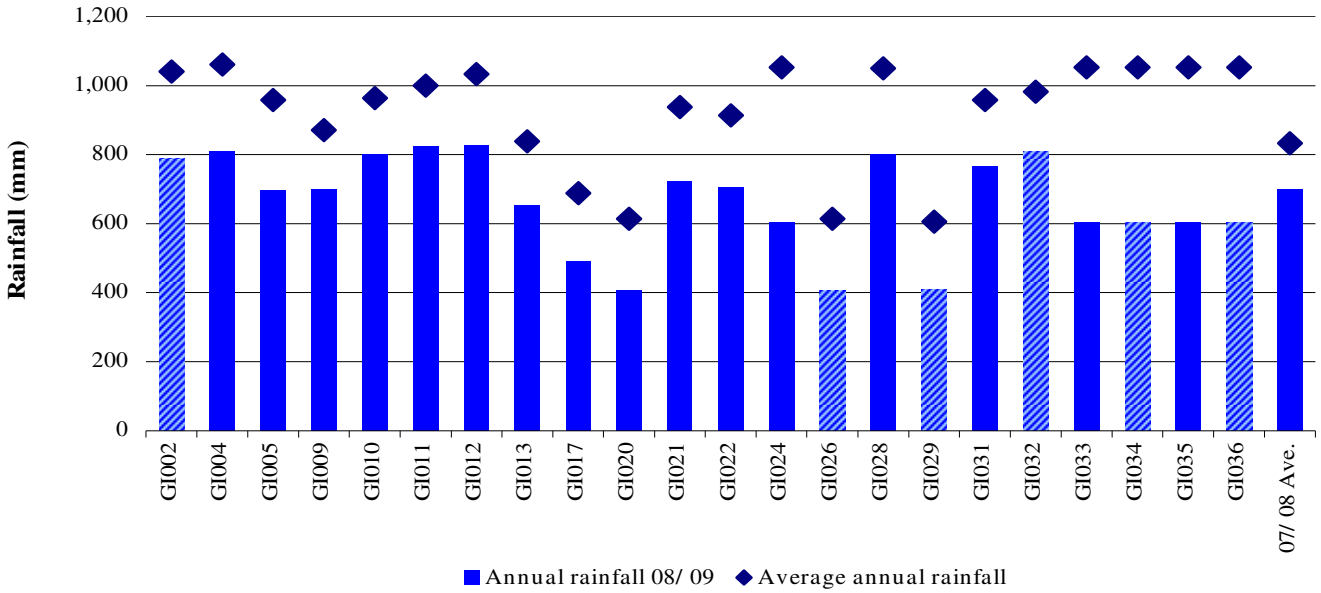


Figure 34 presents the rainfall across the Gippsland region during the 2008/09 financial year. Rainfall totals were generally in the range of 65% to 85% of the long-term average. In general winter was a little wetter than the previous year but spring was drier, right through from September to end of November. Good rains fell in late November and December across much of Gippsland. This set up these areas for plenty of conserved feed to be made, much of this was late silage and hay. Some green pasture was able to be carried into the summer. It also ensured that the Macalister Irrigation District had a full allocation over a dry summer and autumn. South and West Gippsland experienced a dry spring but a wet start to summer. It was a hot summer, with some rain falling in March but it was not until late April 2009 that the actual break arrived.

WHOLE FARM ANALYSIS

The key whole farm physical parameters for Gippsland are presented in Table 8. The Q1 – Q3 range shows the band in which the middle 50% of farms for each parameter sit.

The averages of the top 25% of farms ranked on earnings before interest and tax per hectare were generally within the bounds of the Q1-Q3 range. The only parameter in which the top 25% were above the Q3 value was for people productivity in terms of milk solids produced per full time employee. Compared to the average for all Gippsland participants, the top 25% managed a smaller usable area and had a lower rainfall. Despite this their total water usage was slightly above the average indicating the use of irrigation.

TABLE 8: FARM PHYSICAL DATA – GIPPSLAND

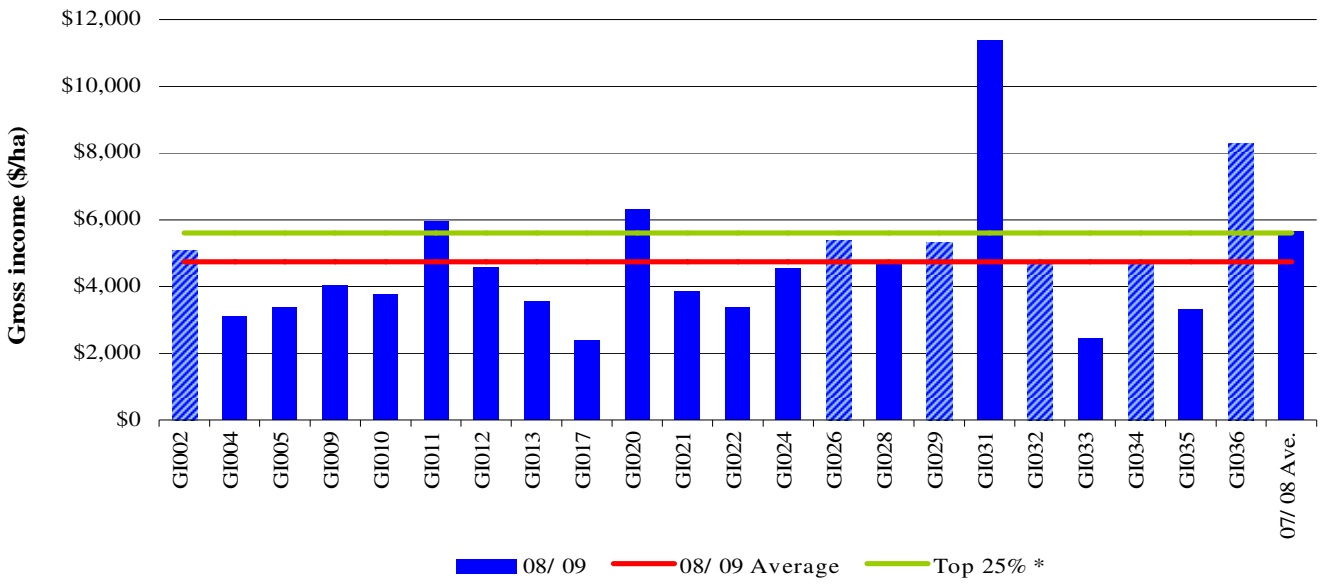
Farm physical parameters	Gippsland average	Q1 to Q3 range	Top 25% average
Annual rainfall 08/09	665	604 - 799	604
Water used (irrigation + rainfall) (mm/ha)	814	696 - 911	823
Total useable area (hectares)	182	101 - 257	133
Milking cows per useable hectares	1.6	1.3 - 1.7	1.7
Milk sold (kg MS /cow)	483	436 - 529	521
Milk sold (kg MS /ha)	803	590 - 813	902
Home grown feed as % of ME consumed	71%	63% - 80%	76%
People productivity (milking cows / FTE)	96	74 - 122	92
People productivity (kg MS / FTE)	46,149	34,270 - 53,528	74,835

GROSS FARM INCOME

Gross farm income includes all farm income, whether that is income from milk sales, an increase 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 farm related grants is also included. Off farm income such as that from unrelated work or personal income support is not included. Figure 24 below shows the large variation in gross income per hectare between participants in Gippsland, ranging from $2380/ha up to $ 11,364/ha.

The top 25% of farms averaged $5,599/ha, compared to the group average of $4,735/ha. Figure 35 shows that unlike the 2007/08 report, higher gross income does not necessarily correspond to a higher EBIT. In 2008/09 only 1 of the 4 farms with the highest gross income per hectare appeared in the top 25% ranked on EBIT. While the farms in the top 25% all had higher than average gross income, they also displayed other strengths which resulted in them having the top whole farm earnings before interest and tax within the group.

FIGURE 35: GROSS FARM INCOME PER HECTARE – GIPPSLAND

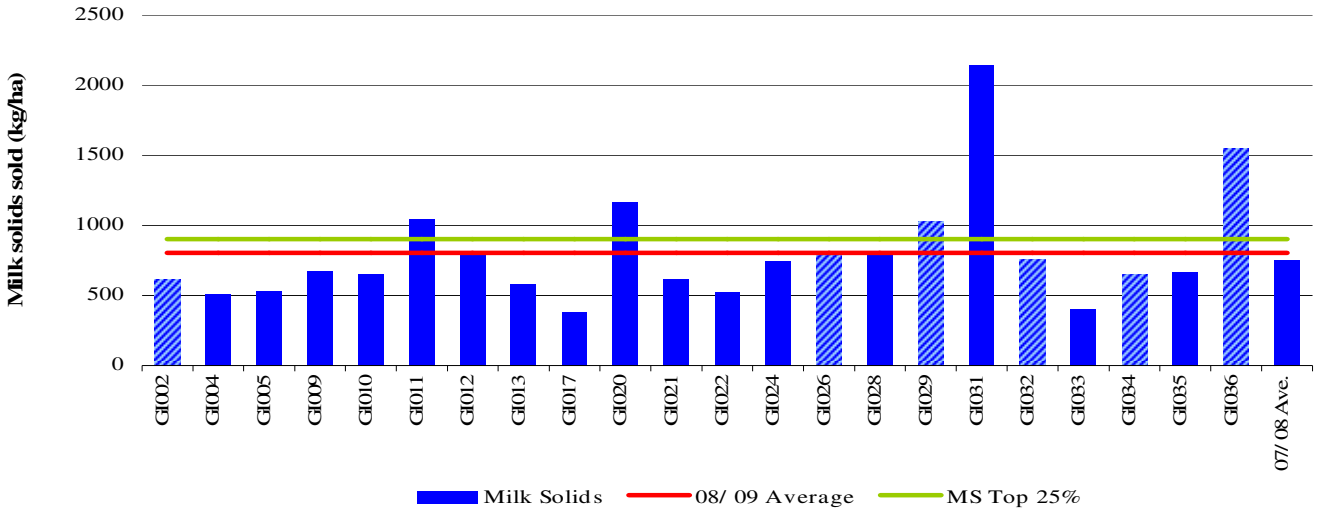


MILK SOLIDS PRODUCTION

In 2008/09 average milk solids sold per hectare improved on average, rising 8% on 2007/08 levels to 803kg MS/ha. For the top 25% of farms average kilograms of milk solids per hectare declined 26% from 2007/08 levels to 902kg MS/ha. There does not appear to be any strong link between milk solids sold per hectare with either the 2008/09 rainfall total or the long-term average for individual farms.

The across-farm differences between Figure 35 and Figure 36 are explained by differences in the milk price received and income received from other sources by the individual farms.

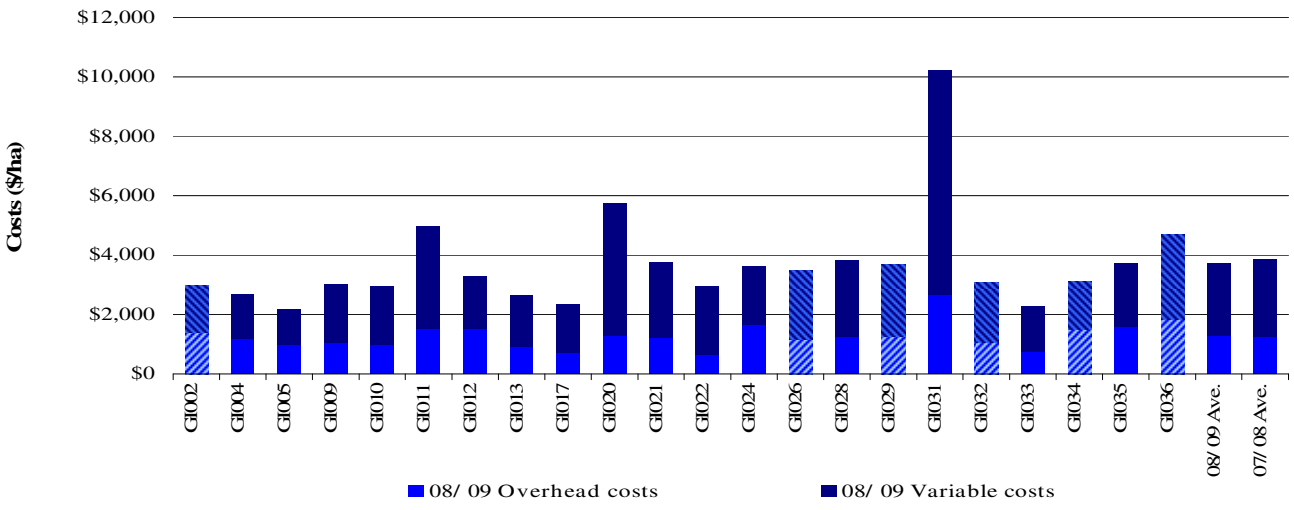
FIGURE 36: MILK SOLIDS SOLD PER HECTARE – GIPPSLAND



VARIABLE COSTS

Total variable costs for the individual farms on a per hectare basis can be seen in Figure 37, with the detailed per kilogram of milk solids sold values presented in Appendix Table C4. The percentages of each variable cost category that make up the total can be found in Appendix Table C6. In 2008/09 feed costs were by far the most significant variable cost across the region. They accounted for an average of 55% of total cost of production or 87% of total variable costs. Within feed costs, concentrates was the major component. They accounted for more than half the total variable costs. Fertiliser cost was the next major component at 18% of total variable costs.

FIGURE 37: WHOLE FARM VARIABLE AND OVERHEAD COSTS PER HECTARE – GIPPSLAND



OVERHEAD COSTS

Figure 37 also illustrates the overhead costs per hectare for Gippsland. This figure includes the non cash overhead costs of imputed people cost and depreciation. Both these cost categories are very important costs to be considered in an economic analysis of a business. Imputed people cost was the major overhead cost, accounting for 42% of overhead costs in both the regional average and top 25% of farms. Total people cost accounted for 60% and 54% of total overheads in the regional average and top 25% respectively. The break down of overheads cost per hectare as a percent of the total can be found in Appendix Table C7.

There was a broad range of total overhead costs in Gippsland during 2008/09. The highest value was $2,658/ha, almost 4 times the level of the lowest value, $665/ha. The second highest value was $1,833/ha. Table 9 gives an indication of the range of overheads as per kilogram of milk solids sold and presents the regional and top 25% averages.

COST OF PRODUCTION

Figure 37 and Table 9 present both variable and overhead costs to give the total cost of production per hectare and per kilogram of milk solids sold respectively. Given as total per kilogram of milk solids sold, the cost of production is a useful risk ratio. By comparing this Figure to gross income, the average operating margin, i.e. EBIT/ kg MS, can be obtained.

TABLE 9: COST OF PRODUCTION – GIPPSLAND

Farm costs ($/ kg MS)	Gippsland average	Q1 to Q3 range	Top 25% average
VARIABLE COSTS			
Herd costs	$0.26	$0.17 - $0.33	$0.19
Shed costs	$0.15	$0.11 - $0.20	$0.13
Purchased feed, inventory loss and agistment	$1.64	$1.20 - $2.10	$1.10
Home grown feed cost	$1.10	$0.76 - $1.17	$1.01
Livestock trading loss	$0.00	$0.00 - $0.00	$0.00
Total variable costs ($/ kg MS)	$3.15	$2.56 - $3.47	$2.43
OVERHEAD COSTS			
Rates	$0.05	$0.03 - $0.05	$0.07
Registration and Insurance	$0.01	$0.01 - $0.02	$0.01
Farm Insurance	$0.04	$0.04 - $0.06	$0.06
Repairs and Maintenance	$0.25	$0.16 - $0.31	$0.32
Bank Charges	$0.01	$0.00 - $0.01	$0.02
Other Overheads	$0.07	$0.05 - $0.11	$0.08
Employed People Cost	$0.40	$0.02 - $0.47	$0.22
Total cash overheads	$0.84	$0.54 - $0.95	$0.78
Depreciation	$0.19	$0.12 - $0.25	$0.24
Imputed People Cost	$0.57	$0.46 - $0.86	$0.67
Total overhead costs ($/ kg MS)	$1.60	$1.42 - $1.95	$1.69
Total cost of production ($/ kg MS)	$4.76	$4.41 - $5.24	$4.12

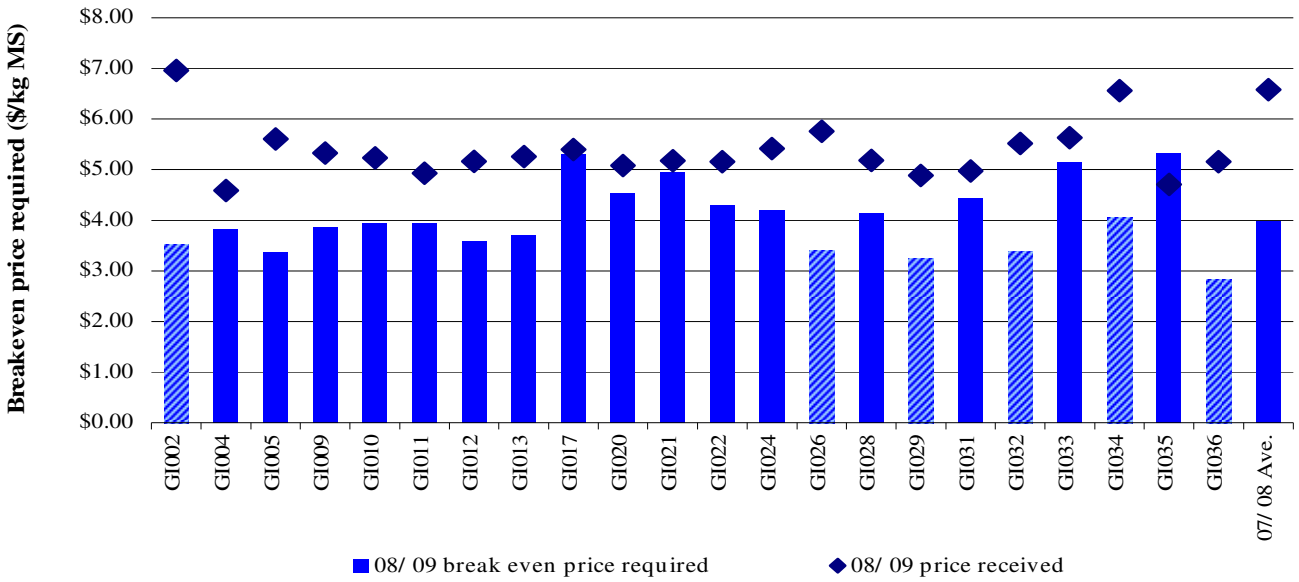
BREAK-EVEN PRICE REQUIRED

The break-even price required for milk is calculated as the cost of production per kilogram of milk solids sold less any livestock trading profit or increase in feed inventory. 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, being milk. The difference between the break-even price required and the price received is the earnings before interest and tax per unit.

Figure 38 shows that the break-even price required varies from $2.84 per kg MS to $5.32/kg MS in Gippsland. All farms except one have a break-even price required less than the price received which relates directly to the positive

EBIT and return on assets all farms except one recorded. The average break-even price required was similar to that recorded in 2007/08. However a significant decrease in milk prices on average of approximately 20% compared to the 2007/08 year average can also be seen.

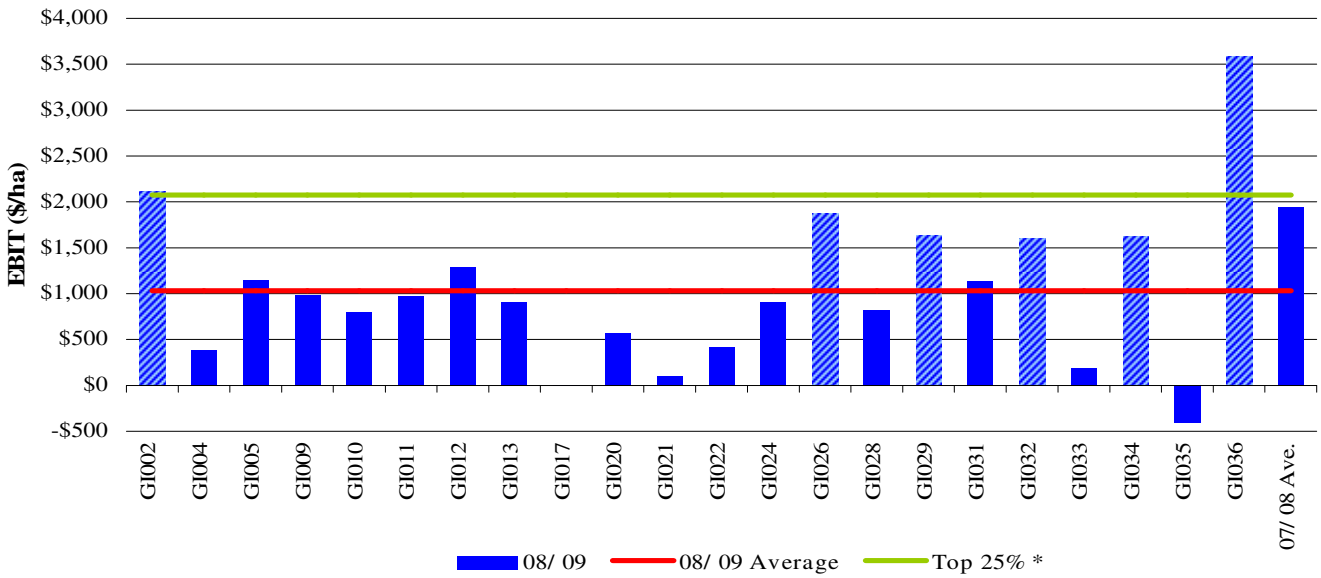
FIGURE 38: BREAK-EVEN PRICE REQUIRED PER KILOGRAM OF MILK SOLIDS SOLD – GIPPSLAND



EARNINGS BEFORE INTEREST AND TAX

Earnings before interest and tax (EBIT) is the gross income, less enterprise costs and overhead costs including imputed costs. During 2008/09 all of the Gippsland farms bar one achieved a positive EBIT, despite a reduction in average EBIT of 47% from 2007/08 levels. The top 25% achieved average earnings before interest and tax of $2,075/ha, more than double the regional average of $1,032/ha. While still a healthy business return, these levels are well below the 2007/08 average of $1942/ha. Note the difference between individual results in Figure 39 compared to Figure 35, farm gross income.

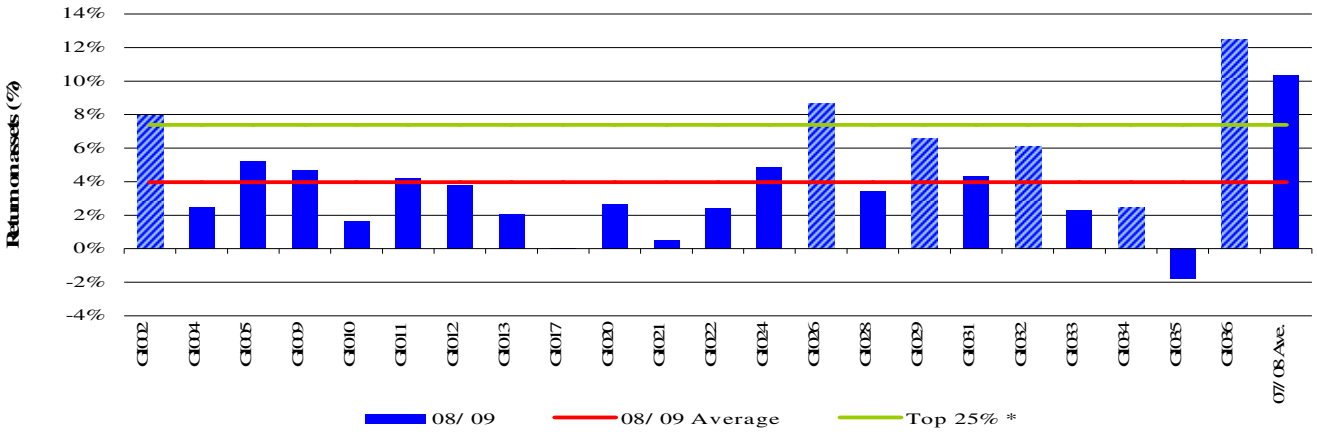
FIGURE 39: WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER HECTARE – GIPPSLAND



RETURN ON ASSETS AND EQUITY

Return on assets is the earnings before interest and tax expressed as a percentage of total assets. It is an indicator of the earning power of total assets, irrespective of capital structure. Return on equity is the net farm income (earnings before interest and tax less interest and lease payments) expressed as a percentage of owner equity. It is a measure of the owner's rate of return on investment.

FIGURE 40: RETURN ON ASSETS – GIPPSLAND

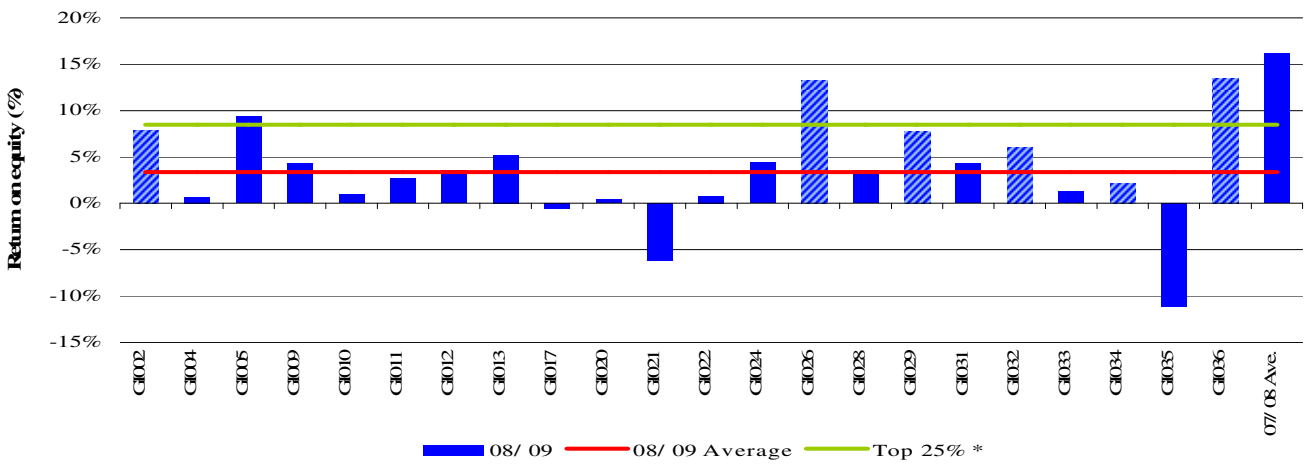


The variation between farms return on assets will reflect the variation between farms earnings before interest and tax, with differences being explained by the variation in the valuation of the total assets managed. These results are a reflection of the total economic result on the farm. Return on assets in Gippsland ranged from -1.8% to 12.5% during 2008/09. Again the historically high milk prices received by producers in 2007/08 were highlighted, with only one farm in Gippsland recording a return on assets higher than the average level for the previous year.

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 they generate. A negative return on equity occurs when total interest and lease payments exceed the earnings before interest and tax. When the percentage increases, it is the result of a higher return on assets than the interest or lease rate.

Gippsland had mixed but generally positive results for return on equity. Values ranged from -11.1% up to 13.5%, however only 3 of 22 farms recorded a negative return on equity. Return on equity does not include any increased wealth from appreciation in the value of the land; however after the large increases in land values experienced in 2007/08 most farms recorded no capital appreciation during the 2008/09 period. These values can be seen in Appendix C1.

FIGURE 41: RETURN ON EQUITY – GIPPSLAND



FEED CONSUMPTION

Figure 42 shows that Gippsland dairy farming systems were predominantly pasture based, with 21 of the 22 farms getting over half their energy requirement as grazed pasture and all participants getting over half their energy requirements from home grown feed. On four farms the estimated pasture consumption provided over 70% of ME required by the herd compared to seven farms during 2007/08. This again points to the more difficult seasonal conditions. 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. A further description of the Energetics method used to calculate energy sources and feed consumption can be found on page 16 of Part Two – Statewide or in Appendix E.

'Other' sources of feed include sources that are not used by or available to dairy farmers on the common market. Palm Kernel Extract is included as a concentrate.

FIGURE 42: SOURCES OF WHOLE FARM METABOLISABLE ENERGY – GIPPSLAND

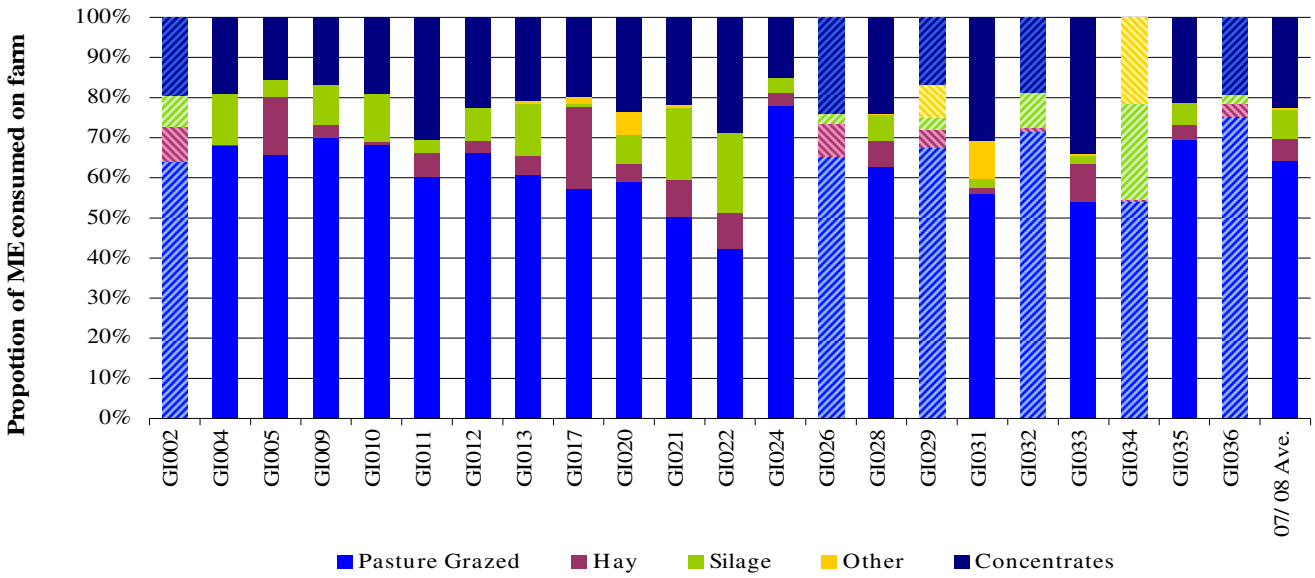
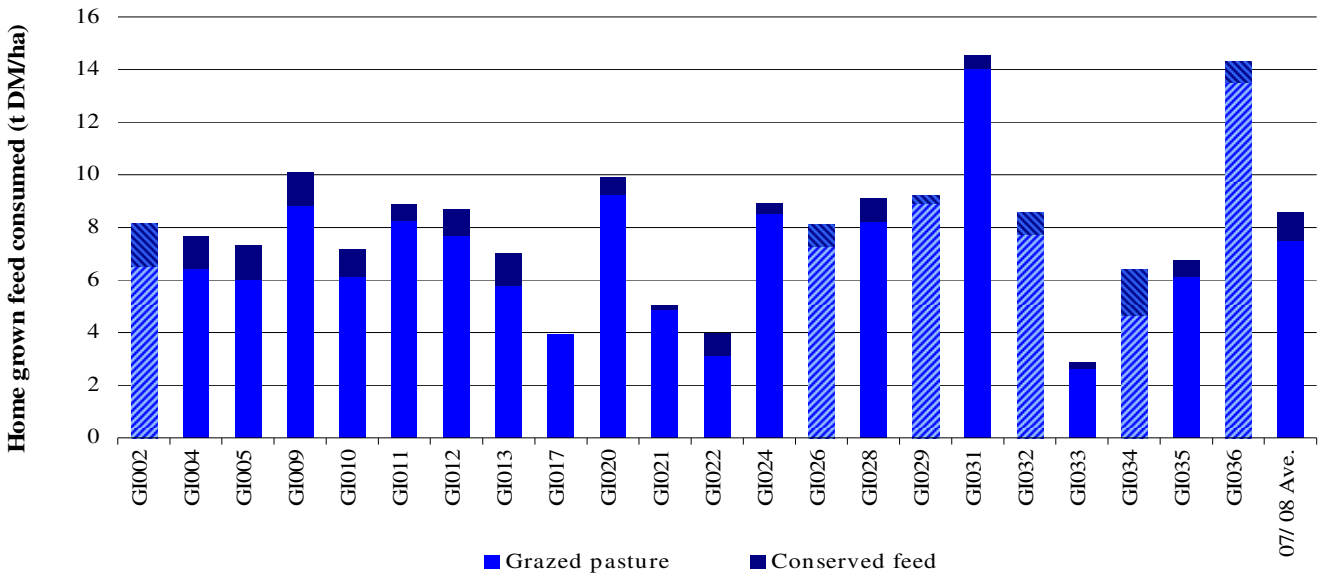


Figure 43 shows the estimated tonnes of home grown feed consumed per hectare for farms in Gippsland. These ranged from 2.9 tonnes of dry matter per hectare up to 14.5 tonnes of dry matter per hectare. The four out of five farms in the top 25% all had close to or higher than average estimates of home grown feed consumed, and had a mixed result when looking at sources of ME in Figure 42.

Of the seventeen farms that were involved in the 2007/08 sample as well as this year, there has been a decrease in the estimate of home grown feed for ten of these farms. This has come despite fertiliser rates on average remaining similar to 2007/08 levels and is better reflected by the reduced rainfall, especially in October, a month of high pasture growth.

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 farms estimate and it is best to compare pasture consumption on the same farm over time using the same method of estimation.

FIGURE 43: ESTIMATED TONNES OF HOME GROWN FEED CONSUMED PER HECTARE– GIPPSLAND

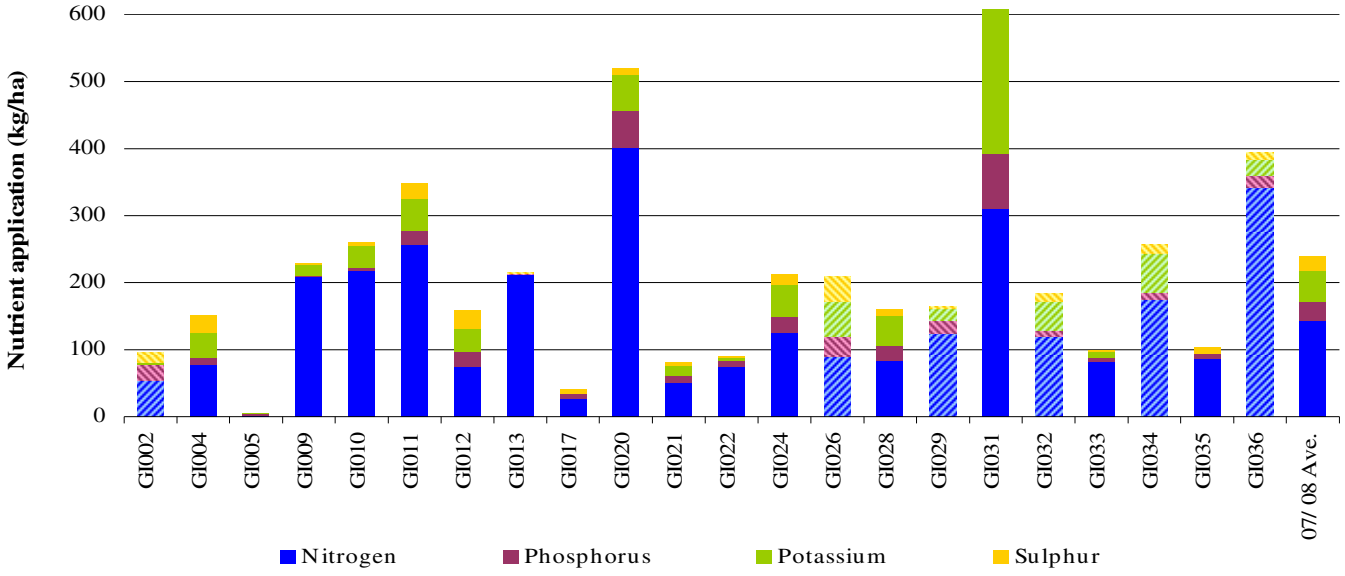


FERTILISER APPLICATION

Farms in Gippsland used a wide range of fertiliser application rates, both between farms and with the mix of key macronutrients on individual farms. With regard to application of nitrogen, rates varied from 2kg/ ha up to 401kg/ha, with the group average at 140kg/ha.

There appears to be some degree of correlation between the pasture consumption per hectare and nutrient application rates as seen in Figures 43 and 44. The four farms with the highest pasture consumption also had the highest fertiliser application rates, although it should be noted that grazing strategies would also impact pasture growth and consumption. The values for Figure 44 can be found in Appendix Table C2.

FIGURE 44: NUTRIENTAPPLICATION PER HECTARE – GIPPSLAND



PART SIX:
BUSINESS CONFIDENCE SURVEY

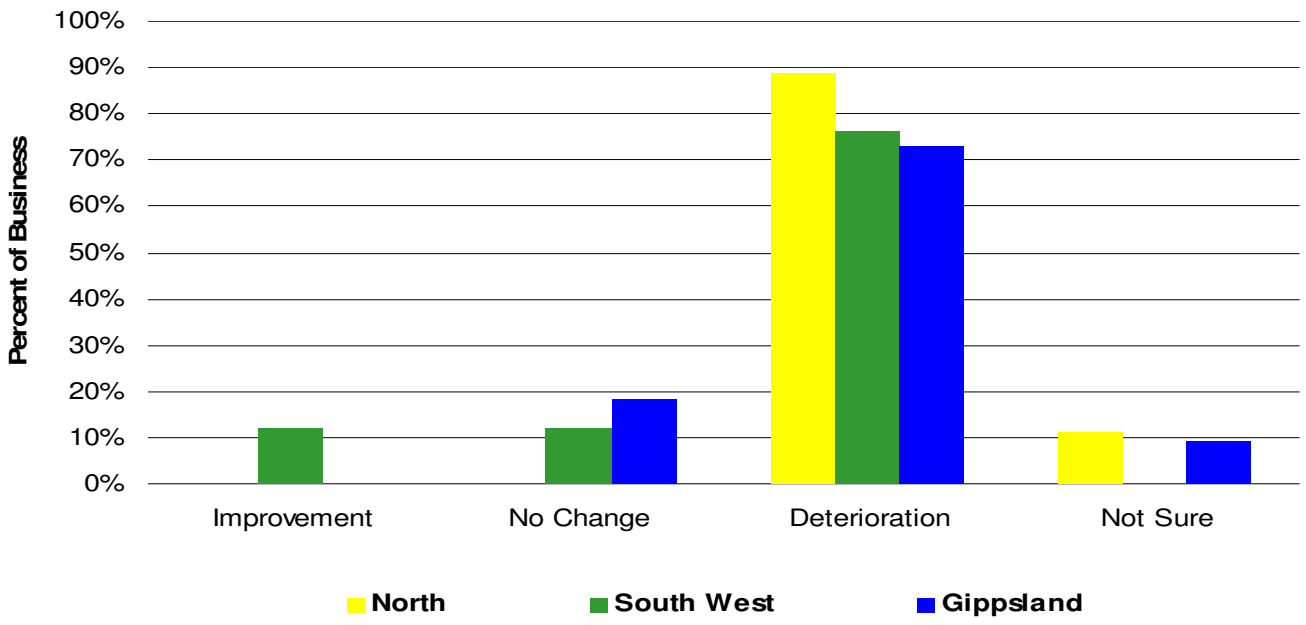
Responses to this business confidence survey were made in June 2009 with regard to the 2009/10 financial year.

EXPECTATIONS, ISSUES AND OWNER / OPERATOR TIME AND HOLIDAYS

EXPECTATION FOR BUSINESS RETURNS

Unsurprisingly given the events of the past 12 months the majority of farms across Victoria expect their farm business returns to deteriorate within the next 12 months, as shown in Figure 45. Only 11% of farmers expect an improvement in farm business returns all of which were located in the South West region. This is a substantial change in confidence compared to the previous financial year where the majority of participant farms expected an improvement. Responses to the survey were made with consideration of all aspects of farming, including climate and market conditions for all products bought and sold.

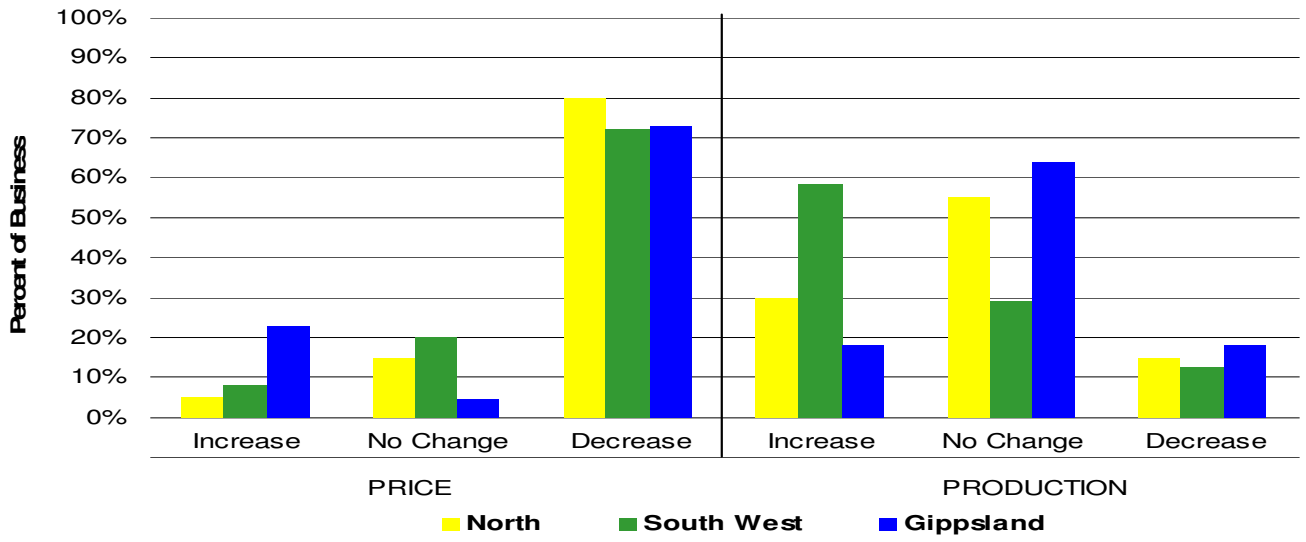
FIGURE 45: EXPECTED CHANGE TO FARM BUSINESS RETURNS IN 2009/10



PRICE AND PRODUCTION EXPECTATIONS – MILK

Within the business confidence survey the most commonly shared opinion related to milk price with over 70% of participants in each region expecting milk price to decrease in the next 12 months. Despite this milk production is likely to remain stable or increase with less than 20% of farmers regionally indicating milk production would decline.

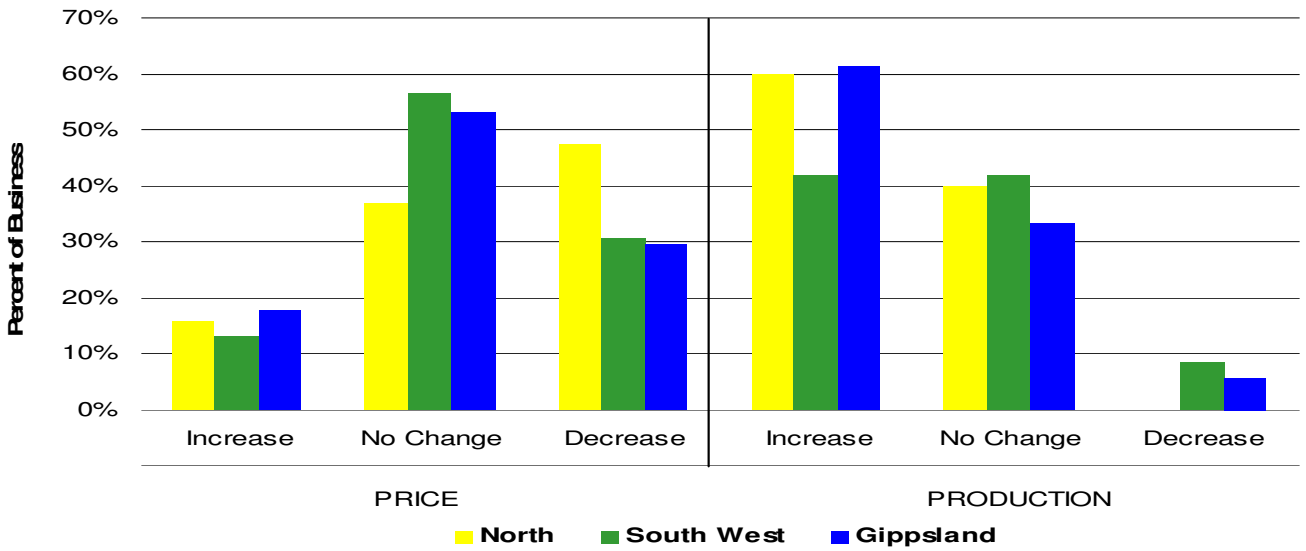
FIGURE 46: PRODUCER EXPECTATIONS OF PRICES AND PRODUCTION IN MILK IN 2009/10



PRICE AND PRODUCTION EXPECTATIONS – FODDER

The price of fodder in the South West and Gippsland regions is expected to remain unchanged whereas farmers in the North region expect fodder to decrease in value in 2009/10. Figure 47 also shows production of fodder is expected to increase for the majority of farmers in the North and Gippsland regions whereas the South West region is equally split between increase and no change.

FIGURE 47: PRODUCER EXPECTATIONS OF PRICES AND PRODUCTION OF FODDER IN 2009/10

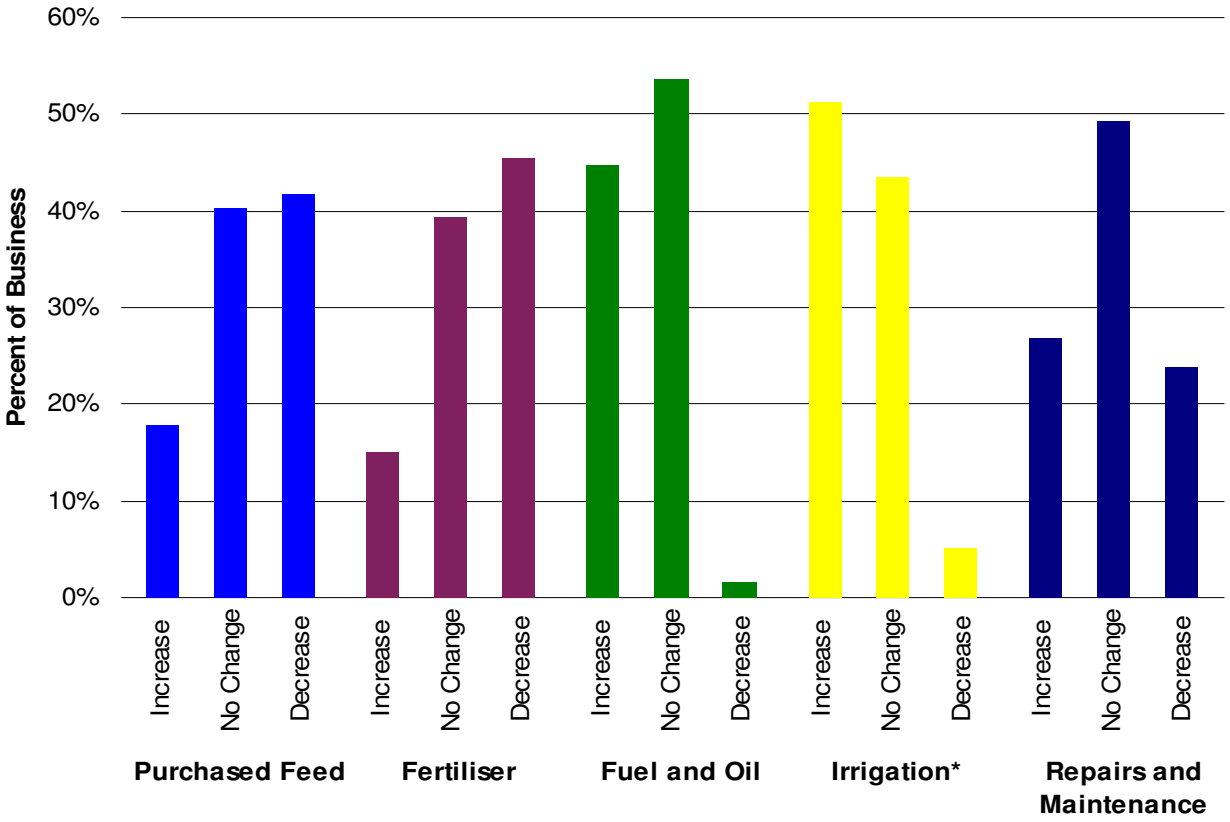


COST EXPECTATIONS

Data presented in Figure 48 represents the expectations of costs for the dairy industry from all 68 participating farms, excluding the costs of irrigation which is only representative of the 39 farms that have significant irrigation.

There is some uncertainty surrounding costs in the dairy industry and the responses are variable. Generally people expect purchased feed and fertiliser to either remain stable or decrease in cost. Conversely fuel and oil and irrigation are expected to remain stable or increase in cost. Responses regarding the cost of repairs and maintenance were mixed.

FIGURE 48: PRODUCER EXPECTATIONS OF COSTS FOR THE DAIRY INDUSTRY IN 2009/10



**only includes 39 farms with irrigation*

OWNER / OPERATOR TIME ON FARM AND HOLIDAYS

The average number of hours worked by the 68 participating farms was 62 hours per working week and the average number of days of holidays taken during 2008/09 was 14 days (Table 10).

Twenty six of the 68 participating farms identified they had less than ten days of holiday with 15 of those stating they took no holiday time at all.

TABLE 10: OWNER / OPERATOR TIME ON FARM AND ON HOLIDAYS

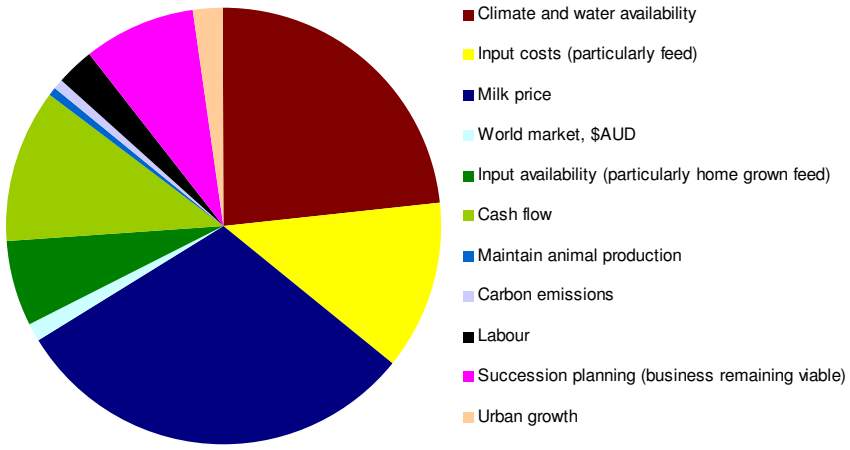
Owner / operator time	Statewide	North	South West	Gippsland
Estimate of average hours per working week	62	63	65	56
Days of holiday taken in 2007/08	14	12	17	14

MAJOR ISSUES IN THE 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 49. A total of 142 responses were recorded from the 68 farms.

Milk price and climate and water availability for pastures and stock were the top two key issues identified with 30% and 23% respectively. Following these were input costs particularly the price of fodder (13%), cash flow (11%) and succession planning (8%). Succession planning referred to those participants who were unsure of the viability of their business in the coming year and other farmers identified they were passing their business onto their children.

FIGURE 49: MAJOR ISSUES FOR THE INDIVIDUAL BUSINESS – THE NEXT 12 MONTH

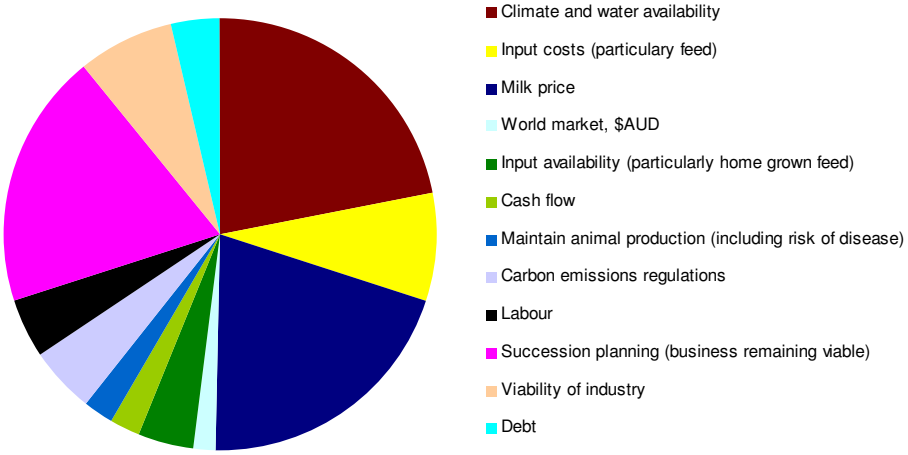


MAJOR ISSUES IN THE DAIRY INDUSTRY – THE NEXT 5 YEARS

The key issues identified by individual participant for their businesses over the next 5 years are identified in Figure 50. A total of 137 responses were recorded from the 68 farms.

Over the longer term the main key issues, including climate and water availability, milk price and input costs, are similar as those identified as key for the next 12 months. However, succession planning significantly increases to represent 19% of responses in the five year outlook to be comparable with milk price(20%) and climate and water availability (22%).

FIGURE 50: MAJOR ISSUES FOR INDIVIDUAL THE BUSINESS – 5 YEAR OUTLOOK



PART SEVEN: GREENHOUSE

2008/09 GREENHOUSE GAS EMISSIONS

The analysis of greenhouse gas emissions from participating farms is based on the Australian National Greenhouse Gas Inventory method. This model was developed to predict the source and quantity of greenhouse gasses emitted from a dairy farm. The initial analysis template was sourced from Melbourne University's Greenhouse website (http://www.greenhouse.unimelb.edu.au), which provides decision support frameworks for greenhouse accounting on Australian dairy, beef and grain farms. While comprehensive, this analysis should not be assumed exact, but used as indicative only.

Carbon dioxide equivalents (CO_2-e) are used to standardise the greenhouse potentials from different gases. The Global Warming Potential (GWP) is the index used to convert relevant non-carbon dioxide gases to a carbon dioxide equivalent. This is calculated by multiplying the quantity of the gas by its Global Warming Potential (GWP). All of the data in this section is in CO_2- e tonnes.

The GWP for the three gases that are noted in this report are; 1 : 21 : 310 (CO_2 : CH_4 : N_2O). This means that one CO_2-e tonne equates to 47.6kg of methane (CH_4) and 3.2kg of nitrous oxide (N_2O).

The distribution of different emission for 2008/09 is shown in Figure 51. Greenhouse gas emissions per tonne of milk solids produced ranged from 7.4 t/t MS to 13.9 t/t MS and the average level of emission was 10.4t/t MS. This is slightly lower than the average from last year's greenhouse gas emissions audit of 10.8t/t MS and a tighter range compared to 7.3 to 17.1 t/t MS in 2007/08.

Methane (CH_4) has been identified as the main greenhouse gas emitted from dairy farms. There are two main sources on farm; ruminant digestion and anaerobic digestion in effluent ponds. Methane produced from ruminant digestion is known as enteric methane and was the major source of emissions from all farms in this report, with an average of 72% of total emissions. Methane from effluent ponds accounted for 1% of total emissions.

The most efficient way of reducing enteric methane is by feeding high quality forages with increased digestibility. Ground or pelleted forages are more digestible than their unmodified form. Another simple and effective method of reducing enteric methane is to add unsaturated fatty acids such as linseed oil into the diet. Promising research continues into rumen modifiers and rumen microbe effects.

The second main emission is nitrous oxide (N_2O) accounting for 18% of total emissions. Nitrous oxide is emitted in significant levels from four main sources on a dairy farm; effluent ponds, fertiliser, indirect emissions (from ammonia and nitrate loss in soils), and excreta (dung and urine). This year a new recommended standard calculation was adopted in accordance with the Department of Climate Change to calculate the N_2O emissions on farm. This resulted in significantly lower N_2O emissions from fertiliser than previous years and indirect (soil) emissions are higher, thus the overall N_2O emissions are still reasonable. N_2O emissions from indirect N_2O emissions were 9.0% and N_2O from effluent ponds accounted for 0.04% of total emissions on farms. N_2O from fertiliser accounted for 1.8% of total emissions and 6.8% of emissions were as N_2O from excreta. N_2O emissions are greatest in warm, waterlogged soils with readily available nitrogen. Over application of nitrogen, high stocking intensity and flood irrigation are all potential causes of increased nitrogen loss as nitrous oxide.

The third main greenhouse gas emission is carbon dioxide (CO_2), which is produced primarily from fossil fuel consumption as either electricity or petrochemicals. CO_2 accounted for 10% of total emissions per kilogram of milk solids. Output levels were highly dependent on the source of electricity used with the majority of farms using brown coal generated electricity. Using renewable energy sources however, could cut electricity emissions as seen in previous year's analysis where electricity emissions were reduced by 98%.

We are currently seeing the importance of understanding and monitoring greenhouse gas emissions, and this will potentially become even more essential in the near future. To find detailed information on the **Australian National Greenhouse Gas Inventory,** strategies for reducing greenhouse gasses and more details on sources of greenhouse gases on dairy farms visit the Australian Greenhouse Office's website at www.greenhouse.gov.au.

FIGURE 51: 2007/08 GREENHOUSE GAS EMISSIONS PER TONNE OF MILK SOLIDS SOLD (CO_2 EQUIVALENT)