Dairy Industry Farm Monitor Project

Annual Report
2010/11

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Acknowledgments

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

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This report has been produced in conjunction with Dairy Australia.

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If you would like to receive this information/publication in an accessible format (such as large print or audio) please call the Customer Service Centre on 136 186, TTY 1800 122 969, or email customer.service@dpi.vic.gov.au.

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Notes on the presentation of data in this report

This section of the report provides notes and explanations behind some of the calculations used and the reason for the data presented in the way that it is. It briefly discusses the different parts of the report and also lists the number of participant farms from the three dairying regions.

This section is not to be confused with II. Farm Monitor Method which discusses the method for the farm data analysis.

This report is presented in the following parts;

- Executive Summary
- Farm Monitor Method
- Statewide overview
- North region overview
- South West region overview
- Gippsland region overview
- Business confidence survey
- Greenhouse report
- Historical analysis
- Appendices

The report presents visual descriptions of the data for the 2010/11 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. 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 per hectare 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 between the Q1-Q3 data range. Given the differences in variation in the regional data, caution is highly recommended when comparing one region to another.

To reduce wordiness, this report will often refer to the group of participating farms in each region by their regional name;

- The 24 participating farms in the Northern Victoria region are referred to as 'the North'.
- The 25 participating farms in the South Western Victoria region are referred to as 'the South West'.
- The 25 participating farms in the Gippsland region are referred to as 'Gippsland'.

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

Milk production data is presented in kilograms of milk solids sold as farms are paid according to milk solids.

The report will focus on measures on a per hectare basis, with occasional referral to measures 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 method used is a combination of that used in the Livestock Farm Monitor Project, and various other referenced sources. Attention should be paid to method when directly comparing figures from this report with those generated via other means. More detail on the method is provided in Part II.

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

Top 25% consists of 6 farms from each of North, South West and Gippsland regions and 19 farms on a statewide basis. The 19 farms in the statewide top 25% are taken by considering all 74 as the one sample and not from combining the top farms from each region.

Discussion on 'last year' refers to the 2009/10 Dairy Industry Farm Monitor Project report. It must be noted that not all of the participants from the 2009/10 report are in the 2010/11 report and that there are also new participants in this year's dataset, which have not been in previous years. It is important to keep this in mind when comparing datasets between years. Farms that were included in last years sample are noted at the start of each regional chapter.

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

What's new in 2011!

The Dairy Industry Farm Monitor Report for 2010/11 includes a number of changes since last years' report. The following highlights the most significant of those.

- An historical analysis section has been included in this years report to compare the trends in profitability of participant farms over the last five years of the Dairy Industry Farm Monitor Project.
- Annual pasture removal calculation has been updated using DPI's Pasture Consumption Calculator. It calculates the pasture consumed by grazing cows plus removal of pasture for hay and silage production.
- Positive and negative values of livestock trading profit and feed inventory change are now included in total income. Previously positive changes in inventory were included in total income and losses or decreases in inventory were considered a variable cost.
- A minor adjustment has been made to the appendix tables. The asset value of water has been separated from the value of land. Care should be taken if comparing sets of data from one year to the next.

Keep an eye on the project website for further reports and updates on the project, including the 2010/11 Dairy Industry Farm Monitor Project Feature Article. The feature article, to be released online on 31 October 2011, will ask the question 'does farm size matter?' Farmers' responses to this question as well as motivations for changing their farm size will be provided. A comparison of the profitability and productivity of different farm sizes will be undertaken and some key indicators of efficient farms will be identified.

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

Keep an eye on the project website for further reports and updates on the project, including the 2010/11 Dairy Industry Farm Monitor Project Feature Article at www.dpi.vic.gov.au/dairyfarm monitor

I.
Executive Summary

Executive summary

This is the fifth 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 74 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. 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.

On the back of the two tough years for Victorian dairy farmers 2010/11 saw a return to form for the industry across all regions of Victoria. The milk price opened more strongly than many expected with most companies paying between $4.70 and $4.75 per kilogram of milk solids. Despite the strong Australian dollar, milk price step-ups including several late in the season helped push the average closing milk price to $5.64 per kilogram of milk solids.

Favourable seasonal conditions further provided an improved operating environment in 2010/11. The season saw good spring growth across the state and large quantities of fodder conserved. Irrigation allocations closed at 100% of high reliability water shares on all northern systems, however the high rainfall meant much of this water was carried forward for use in 2011/12. In Gippsland's Macalister Irriagtion District allocations were also high with irrigators receiving 100% of high reliability water shares plus 100% of low reliability water shares. Severe flooding impacted parts of the north in late 2010 and early 2011, while wet soils and pugging were concerns in some parts of south west Victoria and Gippsland. These events did create some issues for farmers and had an impact on milk production and fodder quality.

The improved market and seasonal conditions were more than enough to offset the six percent increase in cost of production that occurred throughout the year. With this combination of factors, farmers were provided the best opportunity for many years to record a healthy profit and many did so with 72 of the 74 farms surveyed recording positive earnings before interest and tax. Across the state the average earnings before interest and tax was $1.73 per kilogram of milk solids or $1,260 per hectare, a significant rise from 65 cents per kg MS recorded last year. Return on assets recovered similarly, rising from 2.2% last year to 6.2% highlighting the improvement in overall economic efficiency of Victorian dairy farm businesses.

Regionally in Victoria, the North stood out where, despite not recording the highest returns, earnings before interest and tax increased over seven fold from 20 cents per kilogram of milk solids or $153 per hectare in 2009/10 to $1.52 per kilogram of milk solids or $1,172 per hectare this year. In the South West the slight decrease in milk production was compensated for by the higher milk price which resulted in earnings before interest and tax increasing by 88% to $1.71 per kilogram of milk solids in 2010/11. Profitability in Gippsland was the highest at $1.96 per kilogram of milk solids, an rise of 145% or $1.16 per kilogram of milk solids recorded last year.

After a string of tough years these returns have offered farmers the chance to consolidate debt and perform essential repairs and infrastructure improvements which is reflected in the 33% rise in repairs and maintenance costs across the state.

The top 25 percent of producers showed the strength of well run dairy farms, recording profitability levels well above the average. The average earnings before interest and tax on these farms was $2.31 per kilogram of milk solids, $2,260 per hectare, and a return on assets of 9.5 % excluding capital appreciation.

Confidence in the dairy industry was strong with three quarters of farmers expecting an improvement in farm business returns for 2011/12. Farmers are aiming to take advantage of the good operating environment with the majority indicating that they intend to increase milk production in 2011/12. Many are also confident milk price will remain stable or increase. Milk price, input costs and climate are the main issues concerning farmers in the coming 12 months. Over the longer term milk price and input costs were again of major concern as well as succession planning and government policies around water and carbon.

A greenhouse gas emission audit was conducted using the Australian National Greenhouse Gas Inventory method. The average level of greenhouse gases emitted increased to 10.9 tonnes per tonne of milk solids produced compared to 10.2 tonnes per tonne of milk solids produced in 2009/10.

A historical analysis over the past five years of the project showed that all regions have recorded the highest earnings before interest and tax in real terms since the record milk price year of 2007/08. Returns on assets and returns on equity recovered similarly to the second highest level in the history of the project.

Average earnings before interest and tax across the three regions was $1.73 per kilogram of milk solids sold; a 166% increase from 2009/10.

II
Farm monitor method

Farm monitor method

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

The method employed to generate the profitability and productivity data in this report was adapted from that described in *The Farming Game* (Malcolm *et al*. 2005) and is consistent with that used in previous Dairy Industry Farm Monitor Project reports. Readers should be aware that not all benchmarking programs use the same method or terminology for farm financial reporting. The allocation of items such as lease costs, overhead costs or imputed people costs against the farm enterprises will vary between financial benchmarking programs. Standard dollar values for inputs such as stock and feed on hand and imputed labour rates may also vary. For this reason, the results from different benchmarking programs should be compared with caution.

FIGURE 1: DAIRY INDUSTRY FARM MONITOR PROJECT METHOD

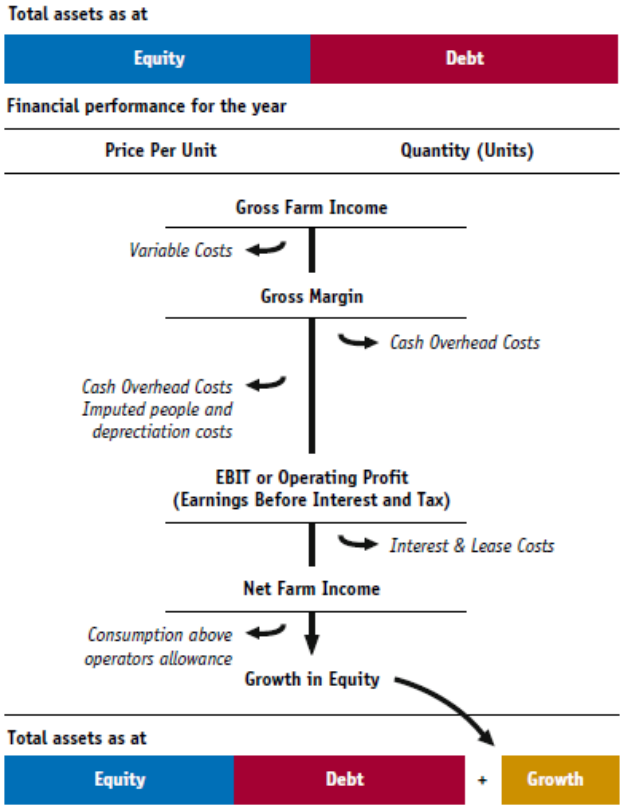


Figure 1 demonstrates how all of the different farm business economic terms come together and are calculated. It is adapted from an initial diagram obtained from Bill Malcolm (2008) at the University of Melbourne. The diagram shows the different profitability measures as certain costs are deducted from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

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

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

Gross farm income

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

Variable costs

Variable costs are costs that are specific to an enterprise, such as herd, shed and feed costs, and vary directly in relation to the size of the enterprise. Subtracting variable costs from total income, only for the dairy enterprise, gives a gross margin. Gross margins are a common method for comparing between similar enterprises and are commonly used in broad acre cropping and livestock enterprises. Gross margins and are not generally referred to in economic analysis of dairy farming businesses but can be useful when considering change on farm.

Overhead costs

Overhead costs are costs that are not directly related to an enterprise as they are expenses incurred through the general operating of the business. The DIFMP separates overheads into cash overheads and non cash overheads, to distinguish cash flows of the business. Cash overheads are those fixed costs such as rates, insurance, and repairs and maintenance. Non cash overheads include costs that are not actual cash receipts or expenditure; for example the amount of depreciation on a piece of equipment. Imputed 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) is calculated by subtracting variable and overhead costs from gross farm income. EBIT is sometimes referred to as operating profit and is the return from all the capital used in the business.

In the DIFMP, EBIT is the final financial measure used to gauge the profitability of a farming business as it ignores how the operation is financed, enabling a fairer comparison to be made between different farming businesses.

Net farm income

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

Net farm income is then used to pay tax and what is left over is business profit (after tax) or surplus and therefore growth, as it can be invested into the business to expand the equity base; either by direct reinvestment or the payment off of debt.

Return on assets and return on equity

Two commonly used economic indicators of whole farm performance are Return on Assets (ROA) and Return on Equity (ROE). They measure the return to their respective capital base.

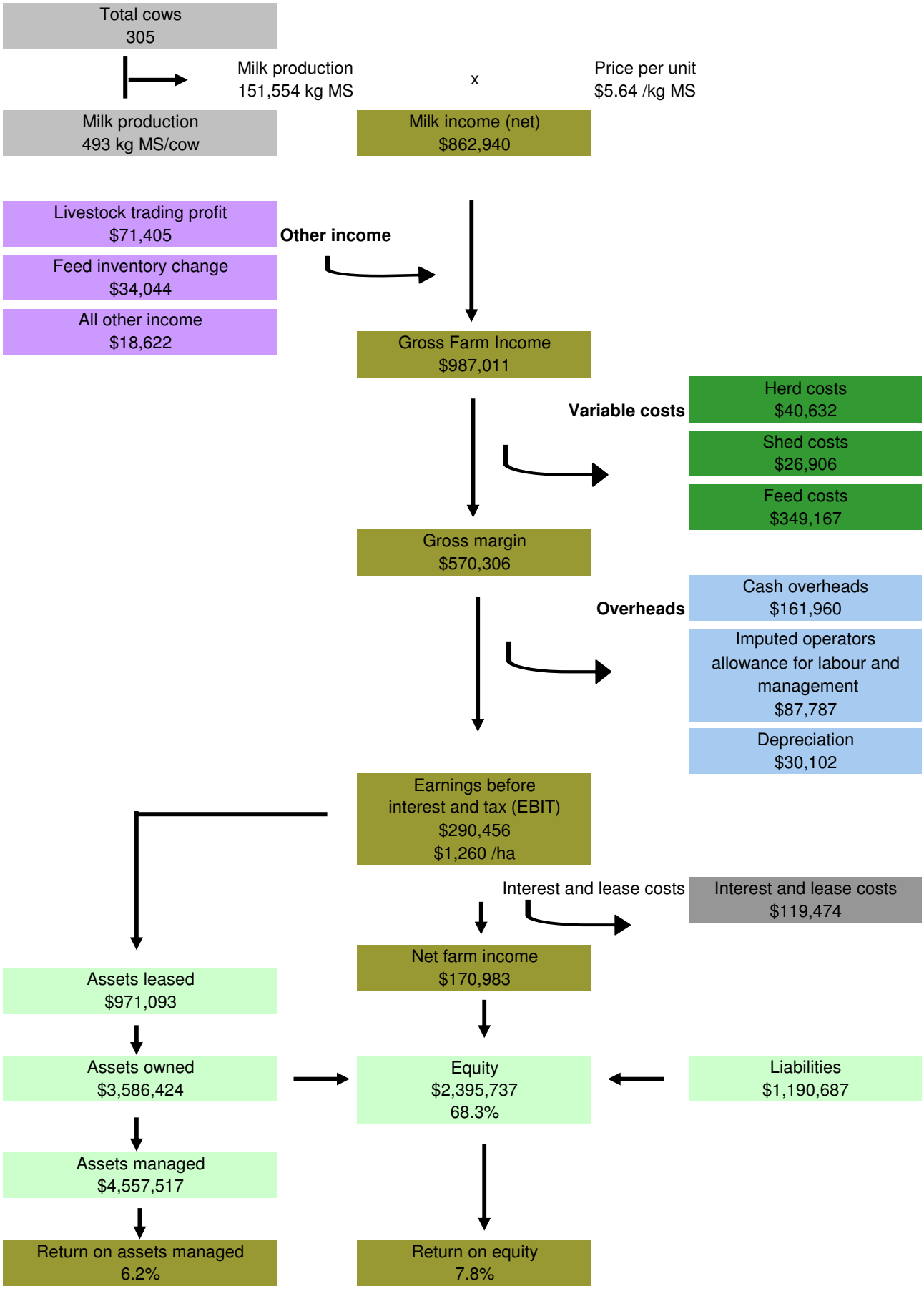
Return on Assets (ROA) indicates the overall earning of the total farm assets, irrespective of capital structure of the business. It is EBIT expressed as a percentage of the total amount assets managed in the farm business, including the value of leased assets. EBIT or operating profit expressed as a return on total assets is the return from farming. There is also a further return to the asset from any increase in the value of the assets over the year, such as land value. If land value goes up 5% over the year, this is added to the return from farming to give total return to the investment. This return to total assets can be compared with the performance of alternative investments with similar risk in the economy.

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

Return on Equity (ROE) measures the owner's rate of return on their own capital investment in the business. It is net profit expressed as a percentage of total equity (one's own capital). The DIFMP reports ROE with and without capital appreciation. This is to distinguish between gains from operating (ROE without capital appreciation) and capital gains (ROE with capital appreciation).

In the DIFMP, EBIT is the final financial measure used to gauge the profitability of a farming business.

Figure 2. DAIRY INDUSTRY FARM MONITOR PROJECT METHOD PROFIT MAP – STATE AVERAGE DATA[1]



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

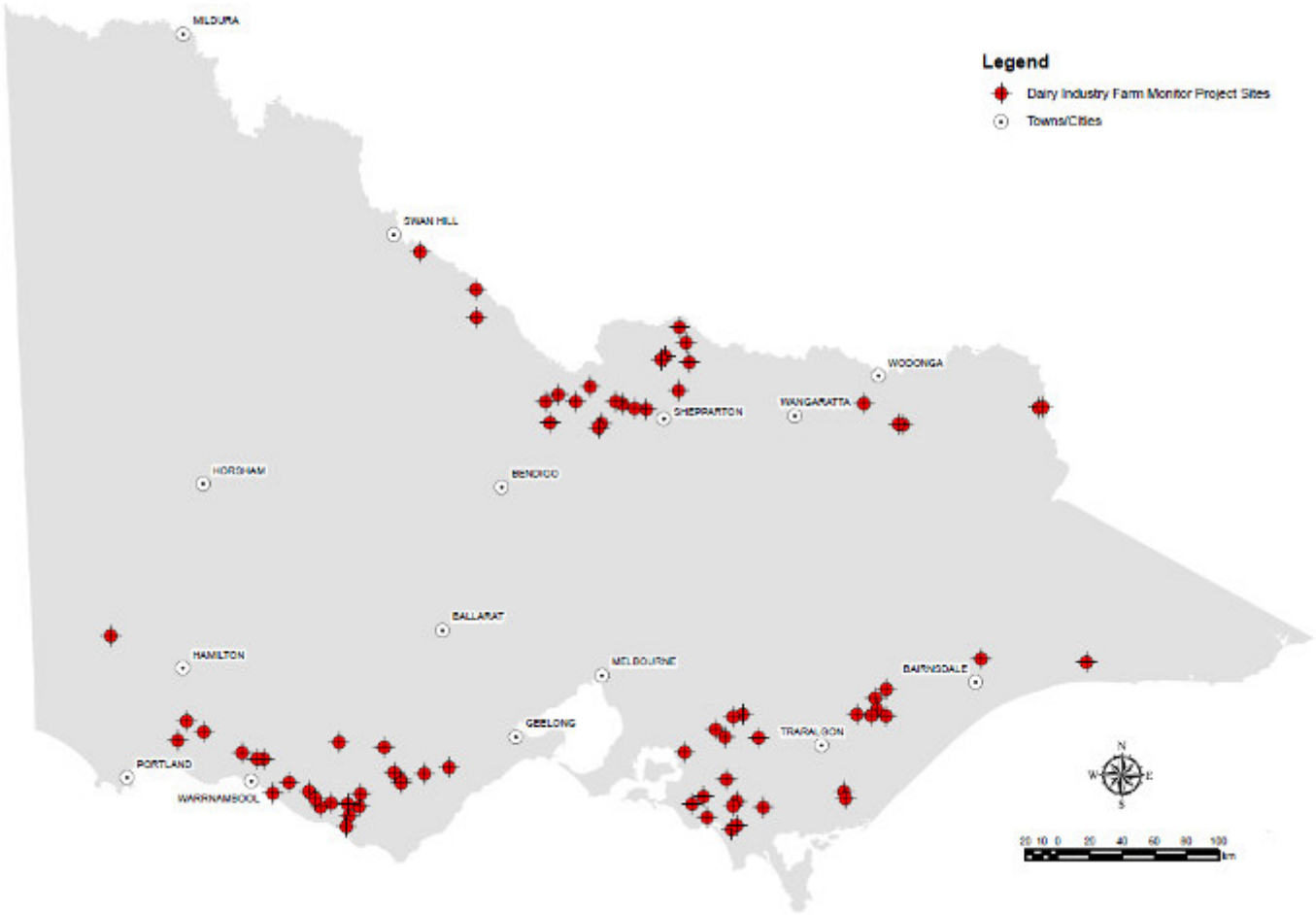
Part One: Statewide overview

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 3.

FIGURE 3: DISTRIBUTION OF PARTICIPANT FARMS ACROSS VICTORIA



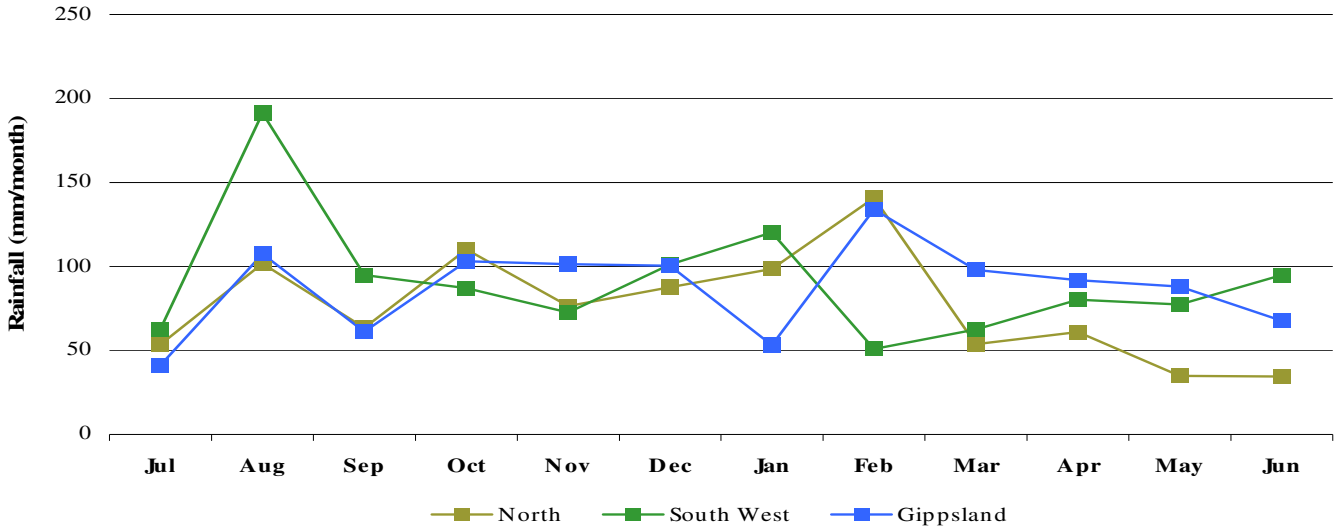
2010/11 Seasonal conditions

The average rainfall across the farms in each region was above the long term averages. The North received 556mm over the year, approximately 107% of the long term average for these farms of 519mm. Farms in the South West received on average 849mm, or 104% of their long term average rainfall of 816mm.

Gippsland received an average of 894mm, which is equivalent to 103% of their long term average rainfall of 871mm. Figure 3 shows the rainfall pattern during the year and the wide variation that occurred.

The regional chapters provide more detail on the 2010/11 seasonal conditions.

FIGURE 4: 2010/11 MONTHLY RAINFALL



Whole farm analysis

On average, farms in the South West ran the largest herds over the largest area compared to the other two regions. Gippsland had a smaller average useable area compared to the other two regions at 190 hectares, but a higher average stocking rate of 1.6 cows per hectare. Cows in the North had the highest average milk production across the year on a per cow basis and received on average a higher milk price than farms in the other two regions.

Total water use per hectare reflected the wet year with each region recording over 1,000mm per hectare of water used. In the North and South West water use was similar in part driven by the return of higher allocations in the northern irrigation region. The two main systems, the Murray and the Goulburn, closed at 100% allocation of high reliability water shares respectively for the year. The Macalister Irrigation District in Gippsland also recorded a 100% allocation of high reliability water shares for the year in addition to a 100% allocation of low reliability water shares.

Table 1 suggests that over double the amount of water was used for irrigation per hectare farms in the North compared to farms in Gippsland during 2009/10.

Gippsland farms recorded the highest average people productivity while levels in the North and South West were similar.

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	74	24	25	25
Herd size (max no. milker for at least 3 months)	305	261	369	285
Annual rainfall 10/11	1,021	916	1,095	1,047
Water used (irrigation + rainfall) (mm/ha)	1,104	1,089	1,099	1,123
Total useable area (hectares)	236	196	322	190
Stocking rate (milking cows per useable hectares)	1.4	1.5	1.2	1.6
Milk sold (kg MS /cow)	493	495	491	494
Milk sold (kg MS /ha)	719	762	585	811
Milk price received ($/kg MS)	$5.64	$5.69	$5.62	$5.59
People productivity (milking cows / FTE)	92	89	89	97
People productivity (kg MS / FTE)	45,504	43,717	44,587	48,138

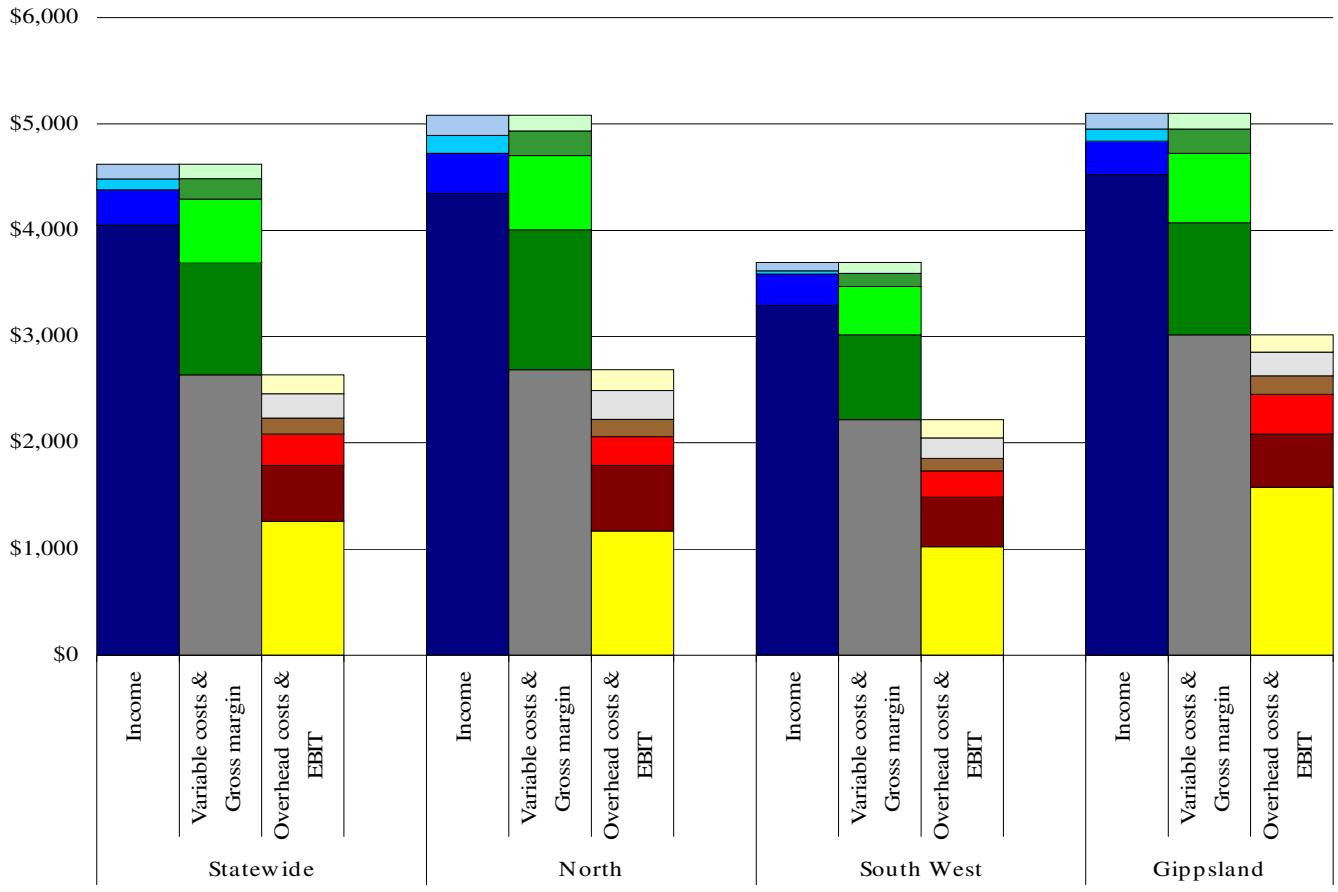
Figure 5 provides a visual representation of the average farm financial performance. The *blue* colours represent income per hectare added vertically to give gross income. From gross income, we can subtract the *green* variable costs, to give the *grey* gross margin values. From the gross margin we subtract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

Gross farm income

Gross income includes all farm income, whether that is income from milk sales, 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 5 shows just how much milk income dominates gross income, other sources are still important to the farm business. Across the state, income from sources other than milk accounted for 10-15% of gross farm income and between one and two-thirds of earnings before interest and tax.

FIGURE 5: AVERAGE FARM FINANCIAL PERFORMANCE PER HECTARE



See Table 2 for the legend on Figure 5.

Income from sources other than milk accounted for 10-15% of gross farm income per hectare.

Variable costs

Variable costs are costs directly associated with production. Examples include animal health, contract services, supplementary feeding, agistment and pasture costs. Figure 5 shows the 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 total cost of feed accounted for around 84% of total variable costs in all regions, although it was slightly lower in Gippsland. See Appendix Tables 6 for a breakdown of variable costs as a percentage of total costs in each region.

The gross margin is equal to gross income minus total variable costs. While commonly used to compare enterprises that can use a similar capital structure like sheep or beef, it can be a useful measure in dairy to analyse changes on farm that don't require capital investment. The statewide average gross margin was $2,639/ha, up 42% from $1,862/ha last year.

Overhead costs

Overhead costs or 'fixed costs' are relatively unresponsive to small changes in the scale of operation of a business. Examples include depreciation, administration, repairs and maintenance and the cost of people's time. Imputed 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 $20 per hour of imputed people time for labour and management. Average overhead costs for participant farms have been increasing over the past four years.

Table 2 shows that participants in the North had a significantly higher average repairs and maintenance costs per hectare than those in the other two regions suggesting that farmers may be catching up on works delayed by low returns over the past few years. 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 and depreciation 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.

TABLE 2: AVERAGE FARM FINANCIAL PERFORMANCE PER HECTARE - STATEWIDE

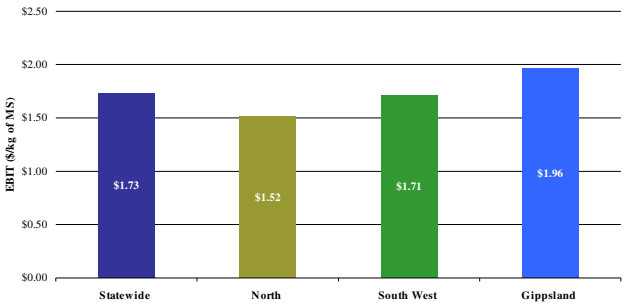
Farm income and cost category	Statewide	North	South West	Gippsland
INCOME				
Feed inventory change	$138	$190	$78	$147
Other farm income	$104	$169	$29	$115
Livestock trading change	$330	$379	$297	$315
Milk income (net)	$4,050	$4,345	$3,293	$4,523
Gross farm income	$4,621	$5,083	$3,698	$5,101
VARIABLE COSTS				
Shed cost	$134	$150	$103	$149
Herd cost	$193	$232	$123	$227
Home grown feed cost	$601	$698	$457	$653
Purchased feed, inventory loss and agistment	$1,054	$1,316	$799	$1,057
Total variable costs	$1,982	$2,395	$1,482	$2,086
GROSS MARGIN				
per hectare	$2,639	$2,688	$2,216	$3,015
OVERHEAD COSTS				
All other overheads	$177	$197	$171	$163
Repairs and maintenance	$229	$271	$193	$224
Depreciation	$151	$164	$117	$172
Employed people	$297	$269	$247	$375
Imputed people cost	$526	$616	$466	$500
Total overhead costs	$1,379	$1,517	$1,194	$1,433
EARNINGS BEFORE INTEREST AND TAX				
per hectare	$1,260	$1,172	$1,022	$1,582

Earnings before interest and tax

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

Average EBIT is positive in all three dairying regions, when expressed as per kilogram of milk solids (Figure 5) and as per hectare (Table 2). As opposed to the previous two years in which EBIT per hectare has declined from levels recorded in the previous year in 2010/11 EBIT levels have surged. The standout in this regard is the North where EBIT has increased over seven-fold. In the South West and Gippsland EBIT has risen by 88% and 145% respectively. Figures 19, 30 and 41 in the regional chapters provide a visual representation of the increase in EBIT between the samples this year and last.

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

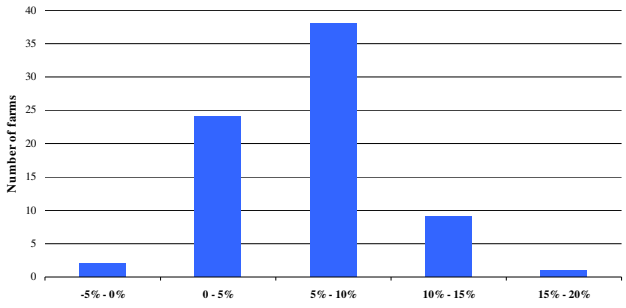


Return on assets and equity

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 6.2%, with a range from -4.3% to 16.4% and a median of 6.3% (Figure 6 and Appendix Tables 1). Seventy two of the 74 participant farms had a positive return on assets, while two farms returned a negative EBIT and thus return on assets in this economic analysis.

FIGURE 7: DISTRIBUTION OF FARMS BY RETURN ON ASSETS

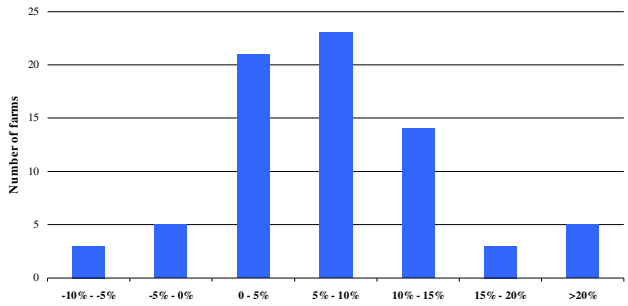


Return on equity is the net farm income (earnings before interest and tax less interest and lease charges) expressed as a percentage of owner equity. Items not accounted for in net farm income are loan principle repayments and tax. Return on equity is a measure of the owner's rate of return on their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

The average return on equity for the 74 farms during 2010/11 was 7.7%, a great improvement on the 2009/10 result of -0.3% which meant that on average farms had been worth less at the end of the year than they had been at the start. Compared to other avenues of investment the returns to dairy farms for 2010/11 are better than those generated by cash (4.75%) and super funds (4.0%) and comparable to those generated by the ASX200 (8.3%) and All Ordinaries (9.3%).

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

FIGURE 8: DISTRIBUTION OF FARMS BY RETURN ON EQUITY



Risk

"Risk is conventionally classified into two types: business risk and financial risk. Business risk is the risk any business faces regardless of how it is financed. It comes from production and price risk, uncertainty and variability. 'Business risk' refers to variable yields of crops, reproduction rates, disease outbreaks, climatic variability, unexpected changes in markets and prices, fluctuations in inflation and interest rates, and personal mishap….'Financial risk' derives from the proportion of other people's money that is used in the business relative to the proportion of owner-operator's capital…"[1]

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

TABLE 3: RISK INDICATORS - STATEWIDE

	Statewide	North	South West	Gippsland
Cost structure	73%	78%	73%	69%
Debt services ratio (percentage of income as finance costs)	12%	10%	15%	10%
Debt per cow	$3,743	$3,451	$4,567	$3,200
Equity percentage (ownership of total assets managed)	68%	66%	65%	74%
Percentage of feed imported (as a % of total ME)	35%	42%	33%	31%

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, including water, given the greater use of imported feed stuffs. Equity levels in the region have improved to 66% this year, up from 58% last year. This is similar to the level reported in 2008/09 however it shouldn't be assumed that this change is purely due to increased returns as there has been a turnover of farms in the sample over this period.

The cost structure ratio provides variable and overhead costs as a proportion of gross farm income. A lower ratio implies that costs were minimised relative to the income generated. Table 3 shows that across the state for every $1.00 of total income generated, $0.73 is used to cover variable and overhead costs.

The debt services ratio is similar to cost structure as it shows the interest and lease costs, as a proportion of gross income. On average farms repaid $0.12 of every dollar of gross income to their creditors. The lower ratio this year of 12%, compared to 13% in 2009-10, is a reflection of the higher income from both milk and other sources this year.

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 generate a return from the extra capital greater than the cost of accessing that capital. In 2009/10 this number fell again, this time to 10%. In 2010/11 65 of 74 farms were 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.

The higher the risk indicator (or lower with equity %) in table 3, the greater the exposure to the risk of a shock in those areas of the business. Further, the data in Appendix Tables 4 and 5 are in cost per kilograms of milk solids sold. This data is best used as risk indictors, 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

Physical Measures

Feed consumption

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

While grazed pasture was the major component of the average cows diet in all regions, the dependence of the North on outside sources of feed in 2010/11 is clear. Forty-two percent of the North's ME was sourced from bought in feed, compared to 33% in the South West and 31% in Gippsland. Despite the improved climatic conditions, this is an increase from the amount of bought in feed required in 2009/10, and perhaps reflects the willingness of farmers to feed more grain and increase milk yields given the higher milk price. All regions are dependent on concentrates with average proportion of ME sourced from concentrates at 30% for the North and 27% for both the South West and Gippsland.

Appendix Tables 3 give further information on purchased feed.

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

The amount of home gown feed produced per usable hectare will be dependent on numerous factors, with water availability, fertiliser application rates and grazing management being central. The average estimates were, as grazed feed and conserved feed, 5.1t/ha and 2.6t/ha for the North, 5.1t/ha and 1.6t/ha for the South West and 7.1t/ha and 1.7 t/ha for Gippsland. All regions recorded a large increase in the amount of home feed conserved in 2010/11 compared to 2009/10 reflecting the good spring.

Appendix Tables 2 give estimates of individual tonnes of home grown feed produced per usable hectare. It should be noted that usable hectares include out paddocks and run off blocks. Pasture consumption over the milking area only would likely be higher by comparison.

FIGURE 9: SOURCES OF WHOLE FARM METABOLISABLE ENERGY

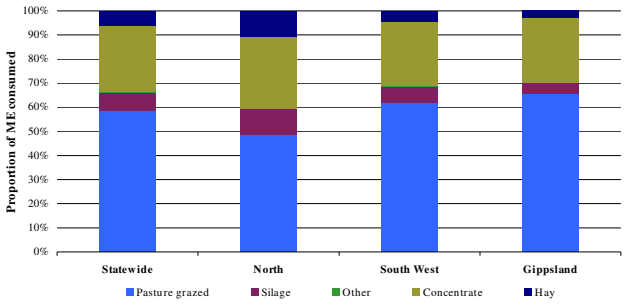
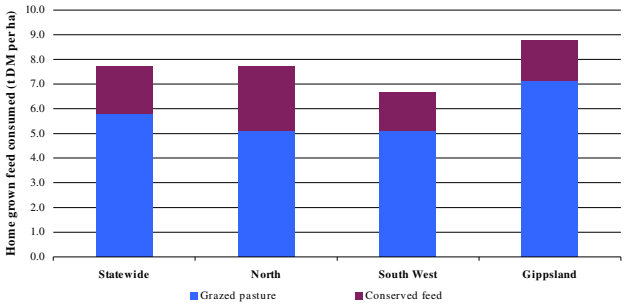


FIGURE 10: ESTIMATED TONNES OF HOME GROWN FEED CONSUMED PER HECTARE

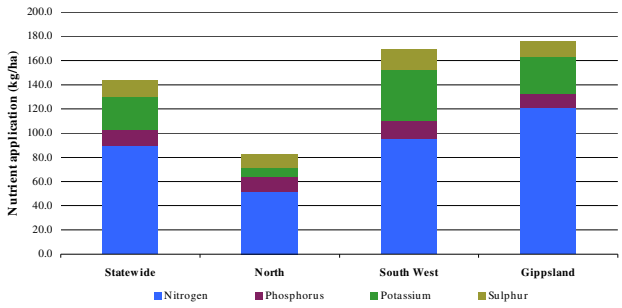


Fertiliser application

Figures 10 and 11 do not show a strong relationship between estimated home grown feed produced 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. All regions spread similar amounts of phosphorus and sulphur, however farms in the North applied around half the nitrogen that was applied in the South West and Gippsland. Potassium application varied the greatest across the regions with farms in the North, South West and Gippsland applying 8kg/ha, 43kg/ha and 32kg/ha respectively, which was similar to last year. Seventy five percent of farms in the North applied fertiliser to the irrigated portion of their total useable area in 2010/11.

Appendix Tables 2 give further information on fertiliser application.

FIGURE 11: NUTRIENT APPLICATION PER HECTARE



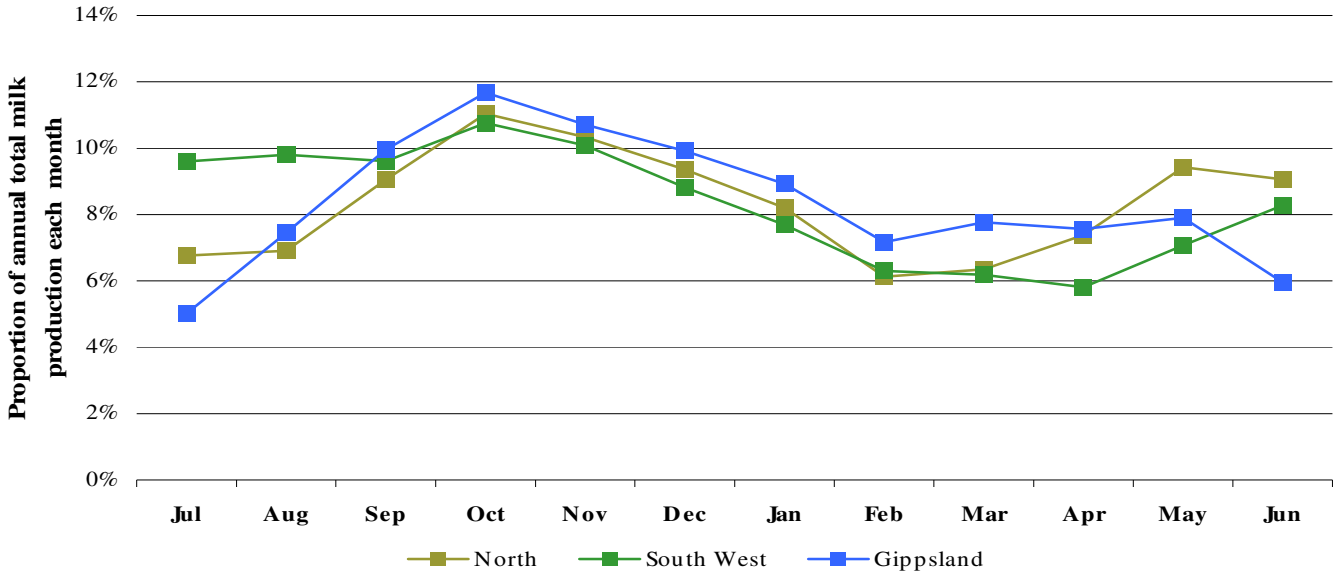
The digestion of feed in the rumen and the use of fertiliser are major sources of greenhouse gases on dairy farms. A summary of greenhouse gas emissions can be found on page 55 of this report.

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 2011. Gippsland farms on average experienced the most rapid increase in production coming into the 2010 spring, going from 5.0% of total production in July to 11.7% by October. The South West had a smoother distribution pattern with production spread across winter and spring.

All regions recorded a large increase in the amount of home feed conserved in 2010/11 compared to 2009/10 reflecting the good spring.

FIGURE 12: MONTHLY DISTRIBUTION OF MILK PRODUCTION

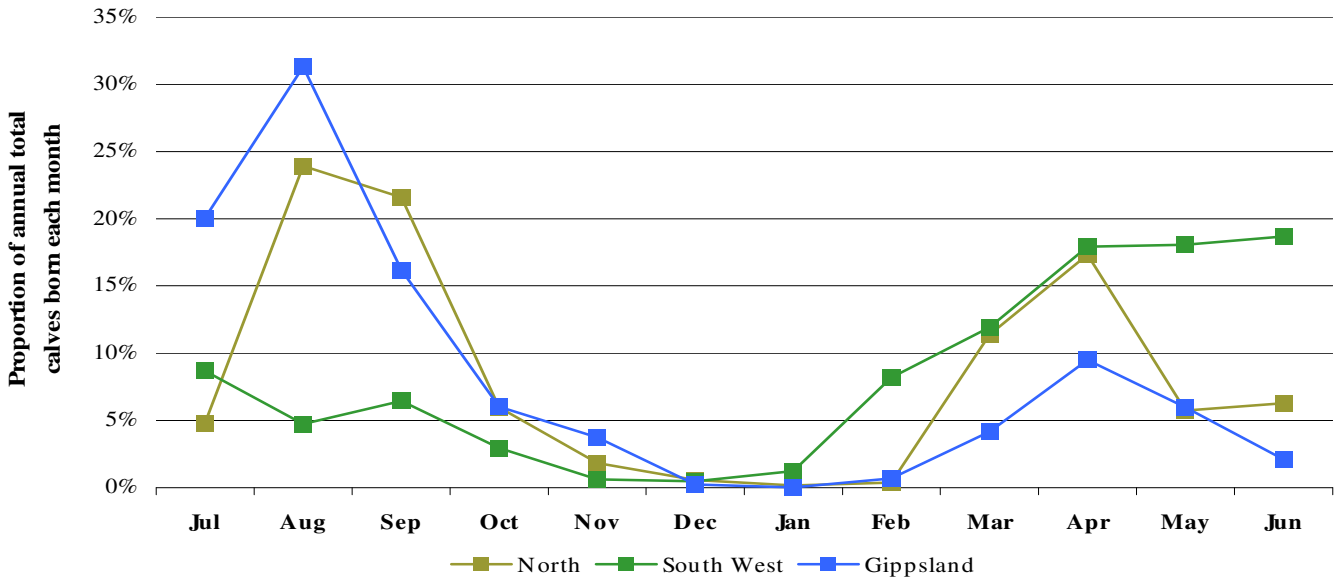


Calving pattern

The milk production shown in Figure 12 follows a similar pattern to the calving pattern shown in Figure 13 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 over one-third of all calves born in August and 67% born from July to September. Less than 2% of calves were born in Gippsland during the summer months. The North achieved a similarly concentrated calving pattern, with 24% of calves born in September and 52% between August and October. The smoother milk production curve of the South West throughout winter mirrors the smoother calving pattern.

FIGURE 13: MONTHLY DISTRIBUTION OF CALVES BORN



Part Two: North

North

Farms NO004 – NO037 were also included in last year's report and farms NO038 – NO045 are new to the sample this year.

Please refer to page 3 for notes on the presentation of data.

2010/11 Seasonal conditions

The 2010/11 season will be one that is talked about for a long time to come. It started with good moisture with some farms experiencing a wet winter. The water allocation started out well and rapidly climbed with all systems having 100% high reliability allocation by the end of spring for the first time since 2005.

Most farms had a large surplus of feed during the spring, however making silage and hay was very difficult due to the frequent rain events. This led to very little high quality hay or silage being made as either the paddocks were cut too late after waiting for rain to pass and the paddocks had dried out again, or if they were cut the windrows were weather damaged.

During the late spring and summer many dairy farms in the region experienced a locust plague. For some farms their entire ryegrass stand was eaten back to the ground and farmers had to go to 100% hand feeding of their cattle. By March most locusts had moved out of most areas and very little autumn damage was reported in the region.

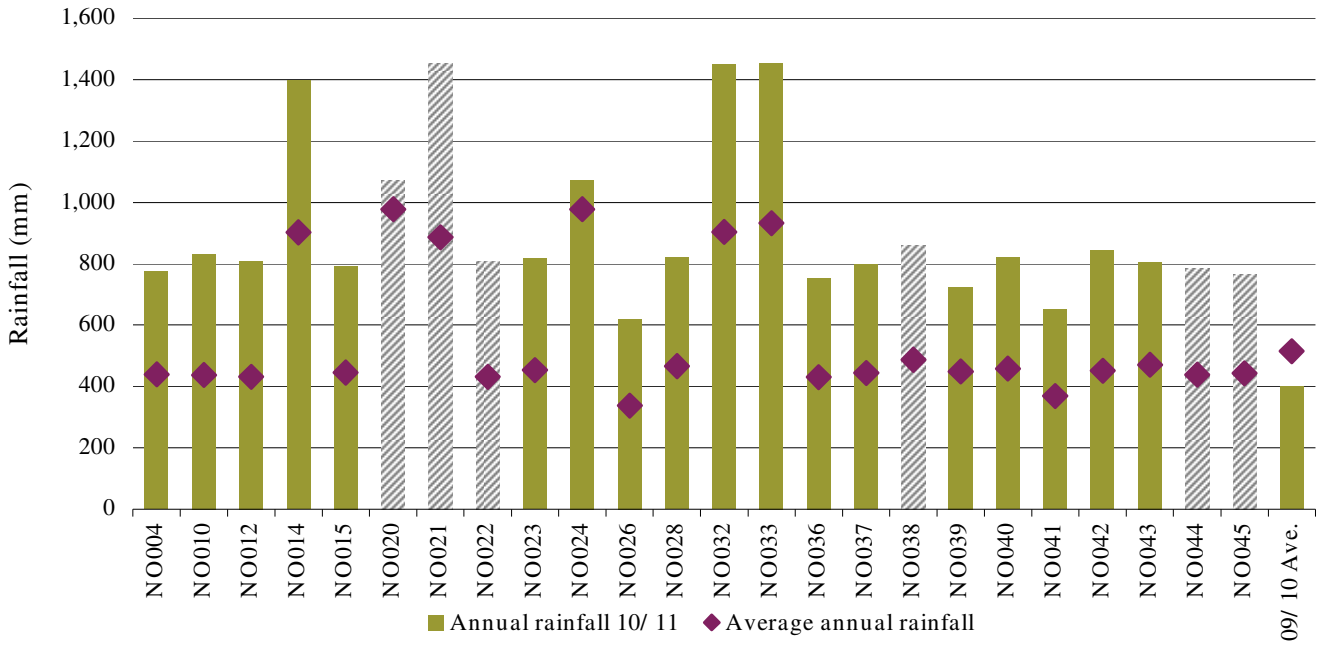
The summer was in many parts the wettest on record with frequent tropical weather systems dumping large amounts of rain. This led to severe flooding in some areas particularly in the Campaspe and Loddon river areas and their tributaries. Many farms over the course of the spring and summer experienced some kind of flooding to a proportion of their farms. This flooding wasn't from rivers spilling their banks but from drainage systems backing up. An upside to all the rain was very little irrigation water was needed over the spring and summer.

Many farms found that it was a trying year due to issues associated with the wet conditions such as high bulk milk cell counts, lame cows, tracks being degraded, and trouble getting onto paddocks for activities like silage and spraying. The positive side is that a lot of grass was grown and water security looks much more promising next year.

During the autumn and winter the paddocks dried out. During late May and June the farms that had opted not to do a late irrigation were mostly regretting the decision as crops and pasture had nearly stopped growing due to lack of available moisture.

*Top 25% * - The top 25% are shown as the lighter bars in all graphs as ranked by earnings before interest and tax per hectare.*

FIGURE 14: 2010/11 ANNUAL RAINFALL AND LONG TERM AVERAGE RAINFALL – NORTH



Whole farm analysis

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

The top 25% of farms ranked on earnings before interest and tax per hectare had higher annual rainfall, higher milk production as measured by milk solids per hectare and per cow.. However the average recorded greater total useable area in hectares and grew slightly more home grown feed as percent of ME consumed

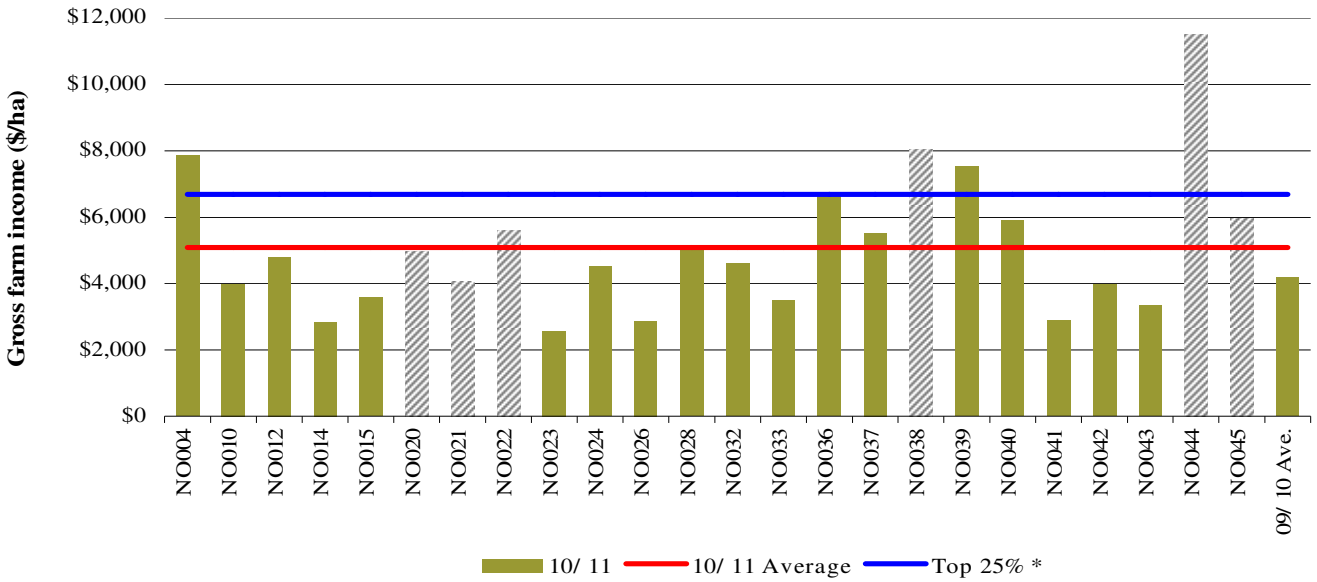
TABLE 4: FARM PHYSICAL DATA – NORTH

Farm physical parameters	North average	Q1 to Q3 range	Top 25% average
Annual Rainfall 10/11	916	784 - 913	958
Water used (irrigation + rainfall) (mm/ha)	1,089	948 - 1,157	1,157
Total Useable Area (Hectares)	196	109 - 247	170
Milking cows per useable hectares	1.5	1.1 - 2.0	1.8
Milk Sold (kg MS /cow)	495	452 - 544	557
Milk Sold (kg MS /ha)	762	537 - 879	1,002
Home grown feed as % of ME consumed	58%	52% - 65%	57%
People productivity (milking cows / FTE)	89	73 - 110	101
People productivity (kg MS / FTE)	43,717	34,510 - 54,002	56,340

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 significantly higher gross farm income at $6,692 per hectare compared with the average at $5,083, as shown in Figure 15. 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. This suggests that the top performing farms have other attributes that enable them to achieve a higher EBIT, other than gross farm income.

FIGURE 15: GROSS FARM INCOME PER HECTARE – NORTH

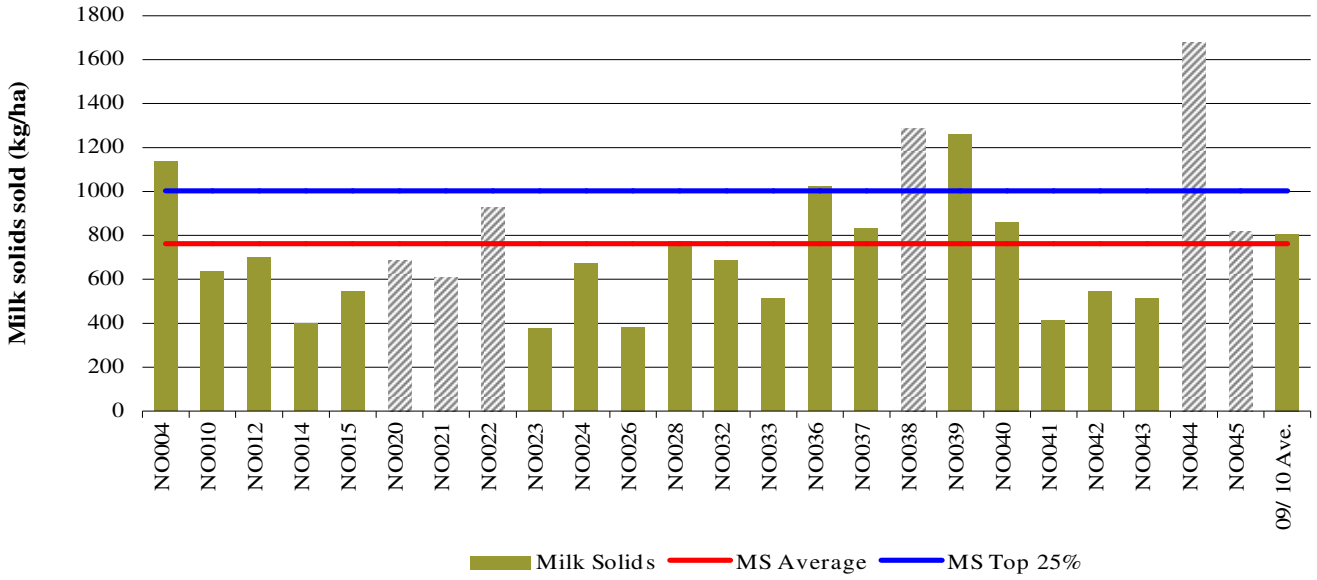


Milk solids production

Figures 15 and 16 show the very strong correlation between income and milk solids sold per hectare, as income is primarily driven by the quantity of milk solids sold. During 2010/11 on average farms produced 762 kg MS/ha compared with 806 kg MS/ha last year. The range of this year's dataset was 374 kg MS/ha to 1,678 kg MS/ha.

As opposed to 2009/10 when the top 25% of farms produced marginally less milk solids per hectare than the average, 2010/11 saw the top 25% of farms produce over 30% more milk solids per hectare at 1,002 kg MS/ha versus 762 kg MS/ha for the average.

FIGURE 16: MILK SOLIDS SOLD PER HECTARE – NORTH



Variable costs

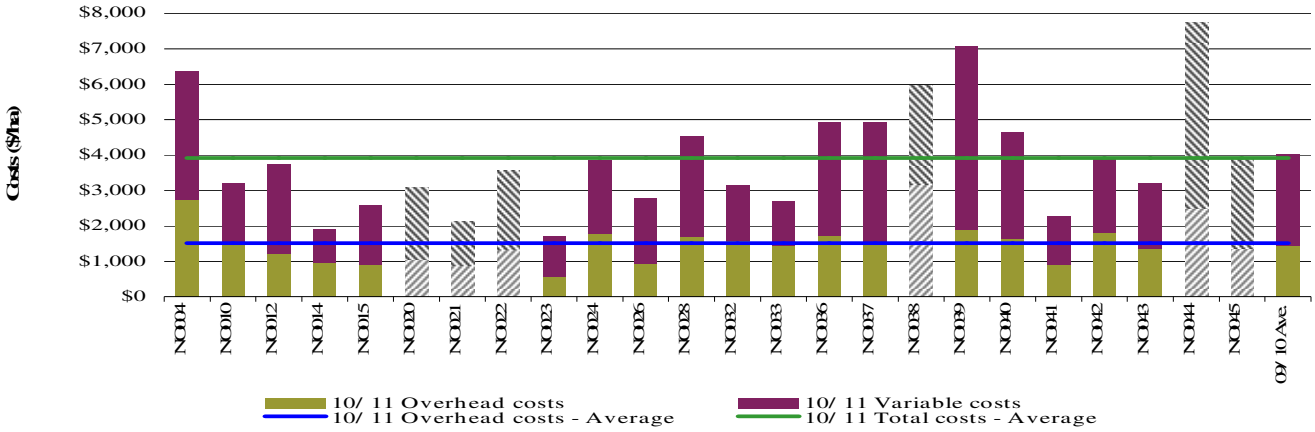
Variable costs ranged from $962/ha to $5,247/ha for the North in 2010/11. This wide range in total variable costs per hectare is seen in Figure 17 with the average for the region being $2,395/ha, a slight decrease from $2,539/ha last year. Overhead costs have increased for the fourth successive year to $1,517/ha in 2010/11. The percentage breakdown of the individual totals expressed as percentages is presented in Appendix Table A6.

Variable costs account for 60% of total costs on a per hectare basis for participant farms in the North region in 2010/11.

Feed costs are clearly the major variable cost however reflecting the improved season conditions and reduced cost of bought in feed, feed costs declined as a percentage of total and variable costs from 54% to 51% and from 88% to 84% respectively. A break down of variable costs for the individual businesses on a $/kg MS basis can be seen in Appendix Table A4.

As opposed to 2009/10 when the top 25% of farms produced marginally less milk solids per hectare than the average, 2010/11 saw the top 25% of farms produce over 30% more milk solids per hectare at 1,002 kg MS/ha versus 762 kg MS/ha for the average.

FIGURE 17: WHOLE FARM VARIABLE AND OVERHEAD COSTS PER HECTARE – NORTH



Overhead costs

Overhead costs are those that do not vary with the level of production. The DIFMP includes cash overheads such as rates and insurance as well as non cash costs such as imputed labour and depreciation of plant and equipment. Figure 17 illustrates the range spent on overhead costs per hectare, which was from $570 to $3,183 for farms in the North in 2010/11.

The main overhead cost categories include people cost, depreciation and repairs and maintenance; which rose 44% indicating farms attended to delayed works. A breakdown of the overhead costs can be obtained in Appendix Table A5 and A7.

Cost of production

Figure 17 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, i.e. EBIT/kg MS.

Table 5 shows that the top 25% of farms generally have equivalent costs per kilogram of milk solids sold in most categories when compared to the average of the entire North. Where the top 25% are able to lower their costs is with purchased and home grown feed and the overhead cost of imputed labour.

TABLE 5: COST OF PRODUCTION - NORTH

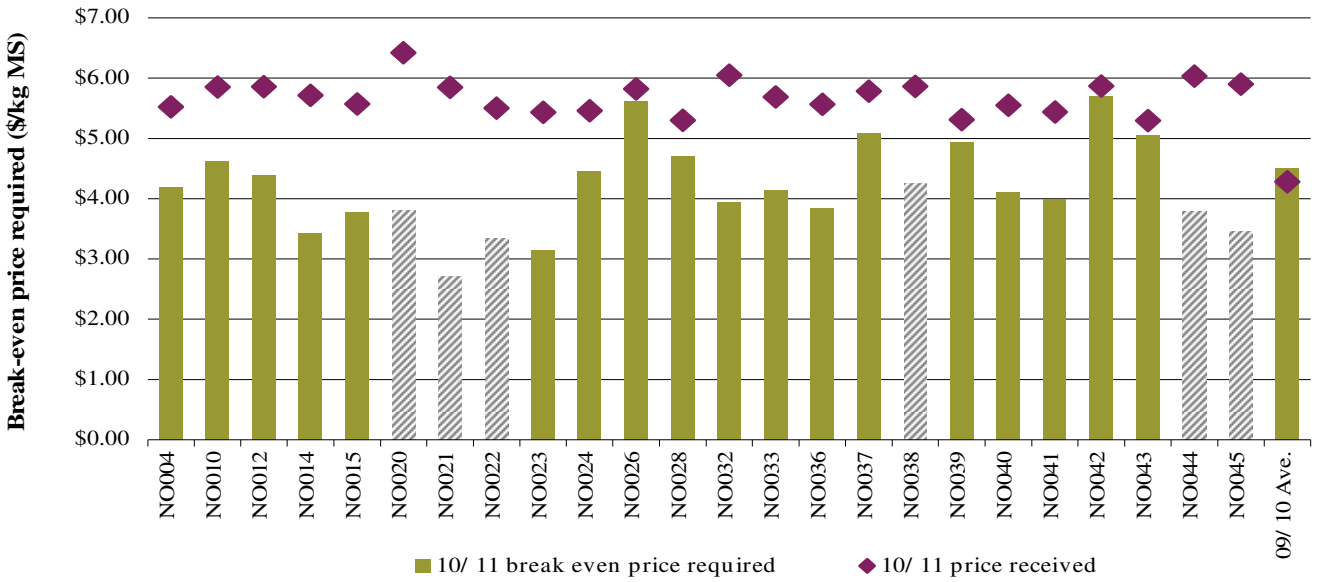
Farm costs ($ / kg MS)	North average	Q1 to Q3 range	Top 25% average
VARIABLE COSTS			
Herd costs	$0.31	$0.23 - $0.39	$0.28
Shed costs	$0.19	$0.15 - $0.23	$0.20
Purchased feed and agistment	$1.67	$1.30 - $1.93	$1.43
Home grown feed cost	$0.99	$0.69 - $1.10	$0.74
Total variable costs ($ / kg MS)	$3.16	$2.63 - $3.61	$2.64
OVERHEAD COSTS			
Rates	$0.04	$0.03 - $0.04	$0.02
Registration and Insurance	$0.03	$0.01 - $0.03	$0.01
Farm Insurance	$0.05	$0.04 - $0.07	$0.04
Repairs and Maintenance	$0.36	$0.25 - $0.46	$0.39
Bank Charges	$0.01	$0.00 - $0.01	$0.01
Other Overheads	$0.15	$0.09 - $0.16	$0.09
Employed People Cost	$0.38	$0.07 - $0.54	$0.37
Total cash overheads	$1.01	$0.69 - $1.20	$0.93
Depreciation	$0.23	$0.10 - $0.33	$0.20
Imputed People Cost	$0.82	$0.57 - $1.08	$0.54
Total overhead costs ($ / kg MS)	$2.06	$1.63 - $2.42	$1.67
Total cost of production ($ / kg MS)	$5.22	$3.78 - $4.64	$4.32

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 18 shows that the break-even price required varied from $2.71 per kg MS to $5.70 per kg MS and the price received varied from $5.30 per kg MS to $6.42 per kg MS. The results highlight that in 2010/11 all farms recorded a profit, as opposed to 2009/10 when only two-thirds of farms recorded a profit. This is reflected in the average break-even price required being 4.18 kg/MS and, after late season step-ups from several companies, the average price received was $5.69 kg MS. The difference between the price received and the break-even price required is the earnings before interest and tax per kilogram of milk solids.

FIGURE 18: BREAK-EVEN PRICE REQUIRED PER KILOGRAM OF MILK SOLIDS SOLD – NORTH

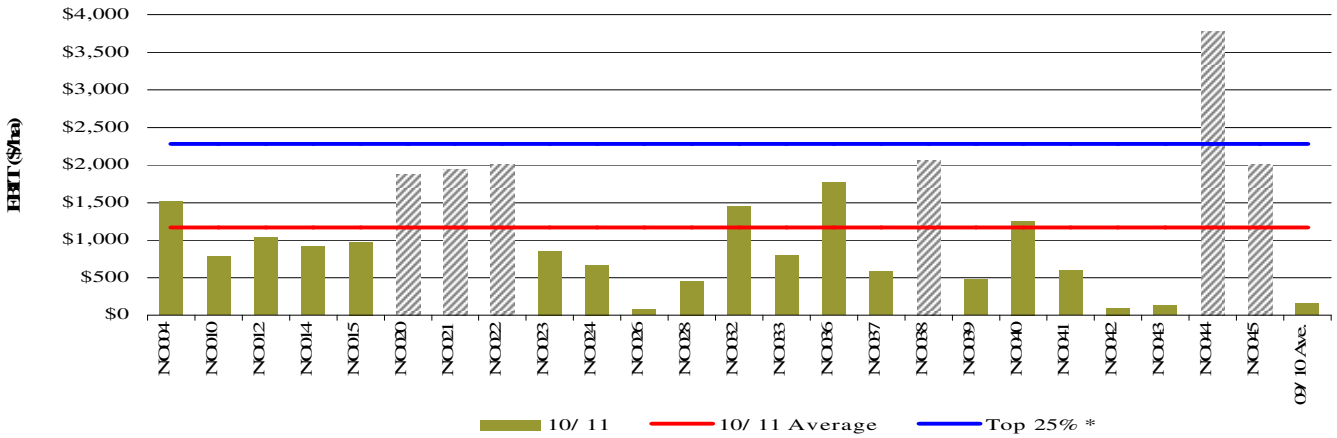


Earnings before interest and tax

Earnings before interest and tax is gross income, less variable and overhead costs. Figure 19 highlights the improved seasonal conditions, strong milk price and competitive input costs in 2010/11 showing that for the first time in the past five years all farms in the North achieved a positive earnings before interest and tax.

The group average was $1,172/ha in 2010/11, a seven fold increase on the $153/ha recorded last year. The top 25% almost doubled the average EBIT/ha at $2,279 however it should be noted this average was strongly influenced by farm NO044 while the remainder of the farms in the top 25% recorded EBIT/ha results below this average figure.

FIGURE 19: WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER HECTARE – NORTH

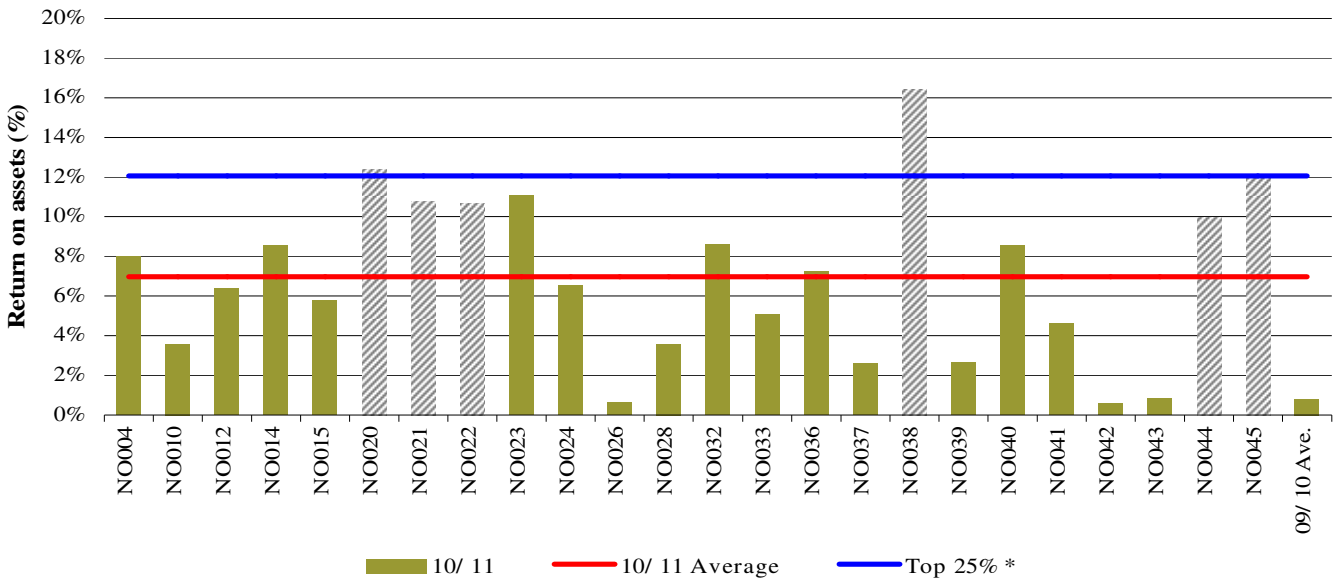


Return on assets and equity

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 19 and 20 were calculated excluding capital appreciation. For return on equity including capital appreciation refer to Appendix Table A1.

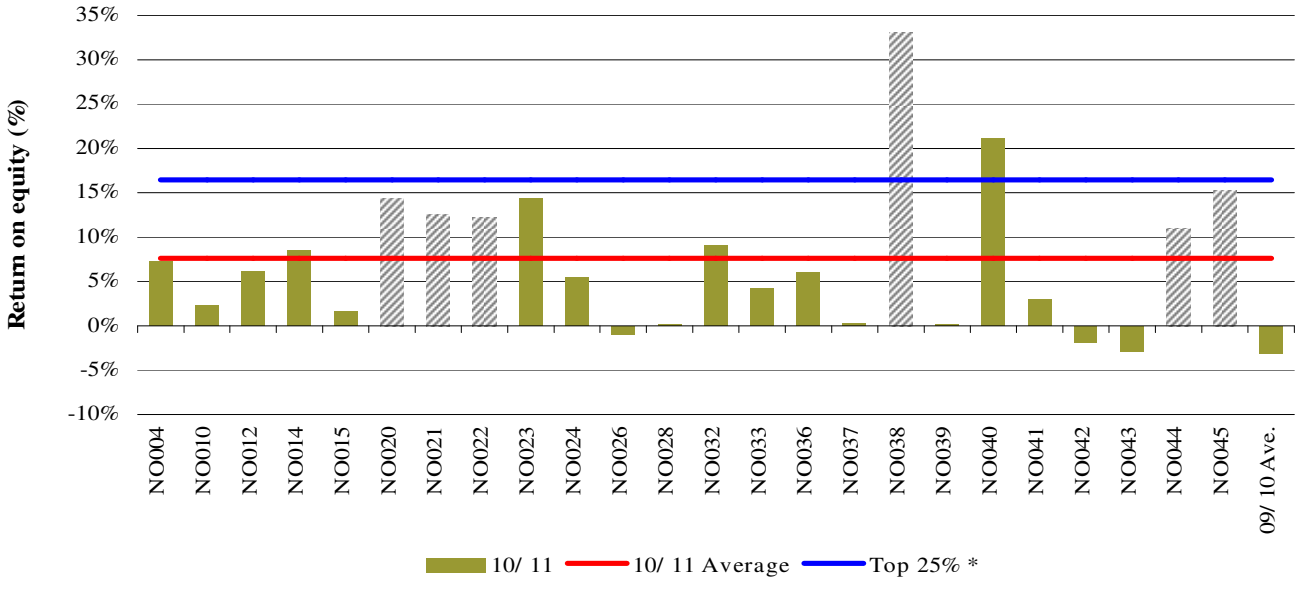
Figure 20 shows the distribution of return on assets in 2010/11. The group achieved a strong average return on assets of 7.0% compared to 0.8% last year. The top 25% achieved 12.1% this year. It's worth noting that while correlated, a low EBIT/ha does not always correlate to a low return on assets as highlighted by farms NO014 and NO023.

FIGURE 20: RETURN ON ASSETS – NORTH



The distribution of return on equity in 2010/11 is shown in Figure 21. In 2010/11 all farms have recorded a return on equity figure higher than the 2009/10 average. As a whole, the North achieved an average return on equity of 7.6% while the top performers achieved 16.4%. Farm NO038 has recorded a very high return on equity through being highly leveraged.

FIGURE 21: RETURN ON EQUITY – NORTH



Feed consumption and fertiliser

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 metabolisable energy (ME) consumption on the farm in shown in Figure 22. The broad range of different source of ME used on individual farms is evident. Despite pasture accounting for less than 50% of the ME consumed on 13 of 24 farms, on average pasture increased by 10% to 48% of the diet while hay decreased by the same amount to 11% compared to last year.

FIGURE 22: SOURCES OF WHOLE FARM METABOLISABLE ENERGY – NORTH

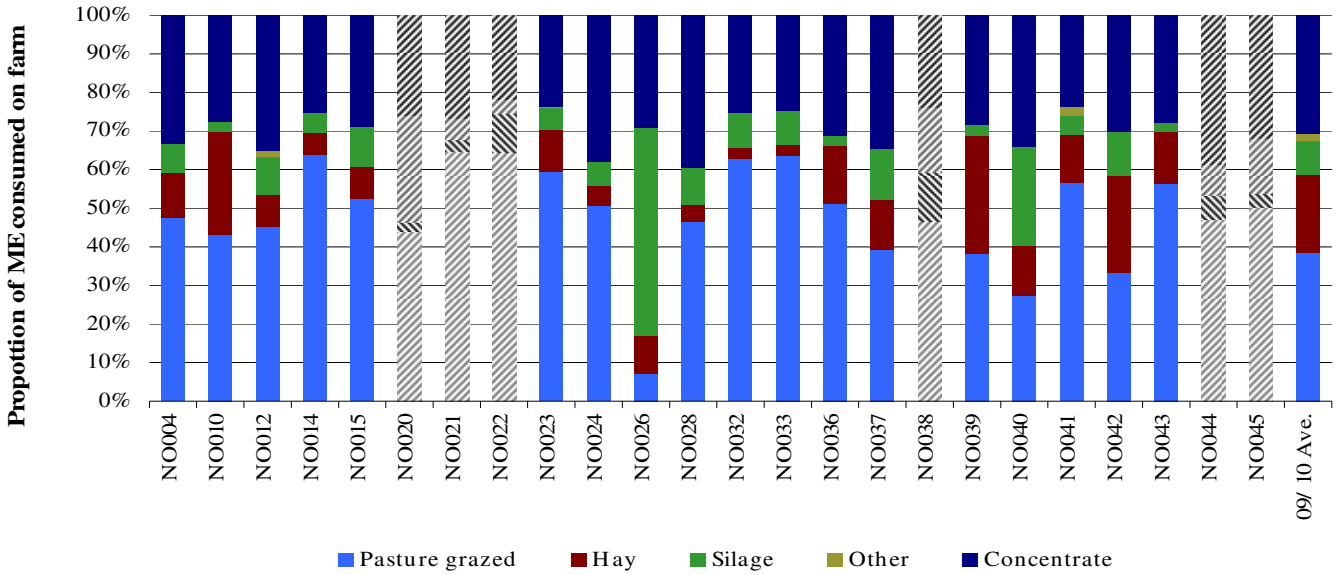
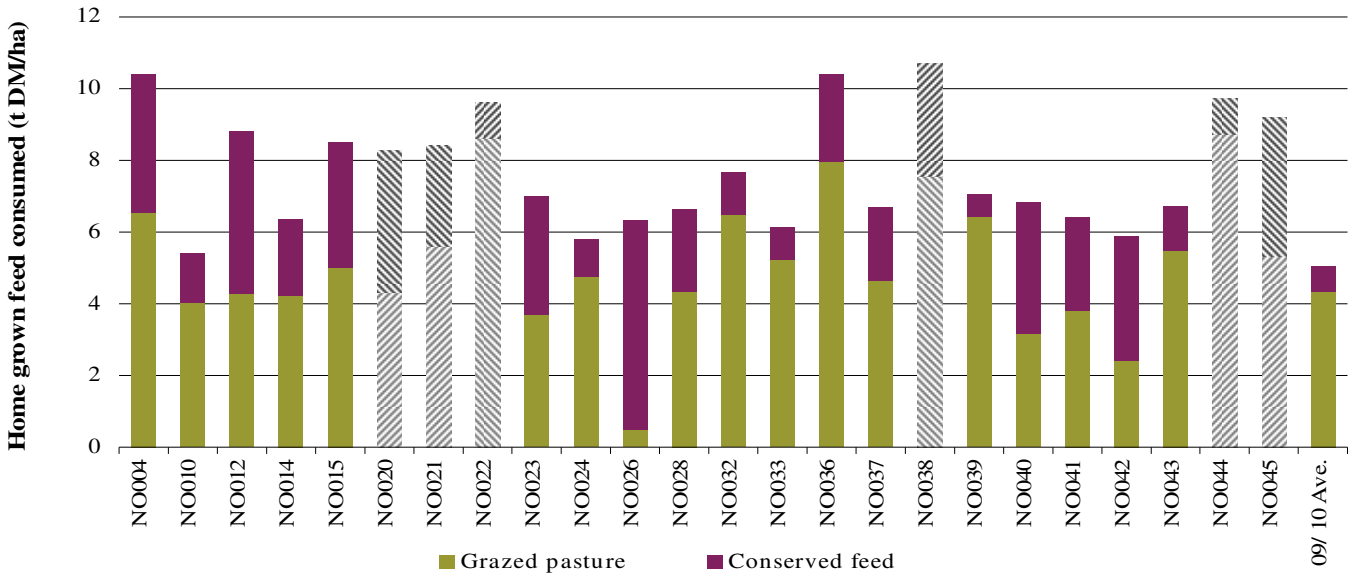


Figure 23 shows the estimated home grown feed consumed per usable hectare for farms in the North. On average home grown feed increased from 5.0 t DM/ha last year to 7.7 t DM/ha this year reflecting the improvement in seasonal conditions. The good season was also evident by all farms consuming more than last years average of 5.0t/ha. The lowest feed consumed was 5.4 t DM/ha and increased to 10.7 t DM/ha.

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 18 of Part One – Statewide or in Appendix E.

FIGURE 23: ESTIMATED TONNES OF HOME GROWN FEED CONSUMED PER HECTARE – NORTH

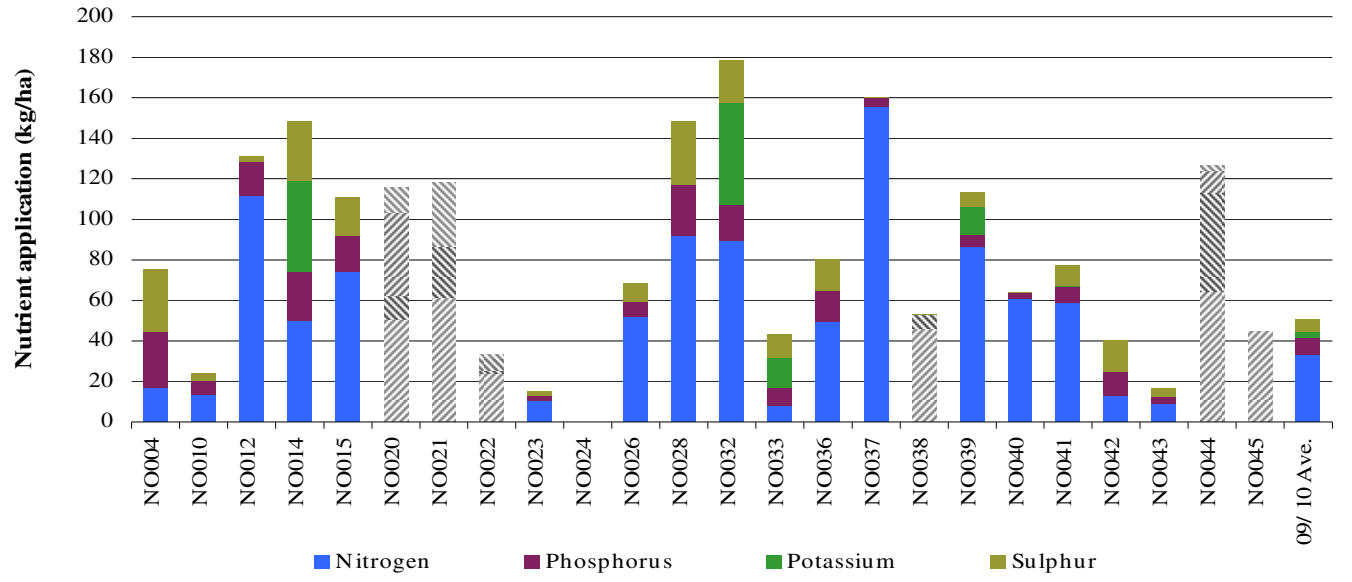


Fertiliser application

The relationship between fertiliser application per hectare and home grown feed per tonnes of DM/ha during 2010/11 is shown in Figures 23 and 24. Similar to last year, there are no discernable trends between those farms that applied the greatest amount of fertiliser and those that had the greatest amount of home grown feed. This could be due to a range of factors including soil type, irrigation scheduling, grazing management, and timing of rain events and damage from flooding or locusts.

Three quarters (18 out of 24) of farms in the North applied fertiliser to at least some irrigated crops or pasture.

FIGURE 24: NUTRIENT APPLICATION PER HECTARE – NORTH



Part Three: South West

South West

Farms SW001 - SW020 have been involved in the project since 2006/07. Farms SW001 to SW033 participated last year. Please refer to page 3 for notes on the presentation of data.

2010/11 Seasonal conditions

The high rainfall across the South West during 2010/11 led to wet conditions, resulting in waterlogged pastures and flooding in some parts of the region. Rainfall increased on average from 849 mm last year to 1,095 mm this year. Participants received rainfall totals between 113% and 156% of their long term average rainfall as shown in Figure 24.

During 2010/11 the South West had well above average rainfall. A cool, wet winter and continued rain during spring resulted in severely waterlogged paddocks, damage to pastures and many animal health issues. The wet conditions also resulted in the production of poorer quality silage and hay than previous years on many farms.

The widespread summer rain for much of Victoria was also experienced in the South West, allowing pasture and forage crop growth to be maintained with only minor insect damage. Continued growth through summer meant minimum hay and silage needed to be fed during this period. However, major flooding events occurred on some rivers systems during August and September and again in January causing significant damage.

The autumn period and into winter has been testing for many farmers in the region given the continued rainfall during this period after the heavy rains in summer. High soil moisture levels going into autumn, coupled with average to above average rainfall meant that many areas were dealing with the challenge of waterlogged pastures and slow pasture growth earlier in the season than in the past number of years. Rainfall over the autumn period has helped with the germination of new pasture however some of this new pasture was sown later than usual due to the excellent fodder crop growth. These wet conditions have led to issues with pugging, mastitis, lameness and cow nutrition.

*Top 25% * - The top 25% are shown as the lighter bars in all graphs as ranked by earnings before interest and tax per hectare.*

FIGURE 25: 2010/11 ANNUAL RAINFALL AND LONG TERM AVERAGE RAINFALL – SOUTH WEST

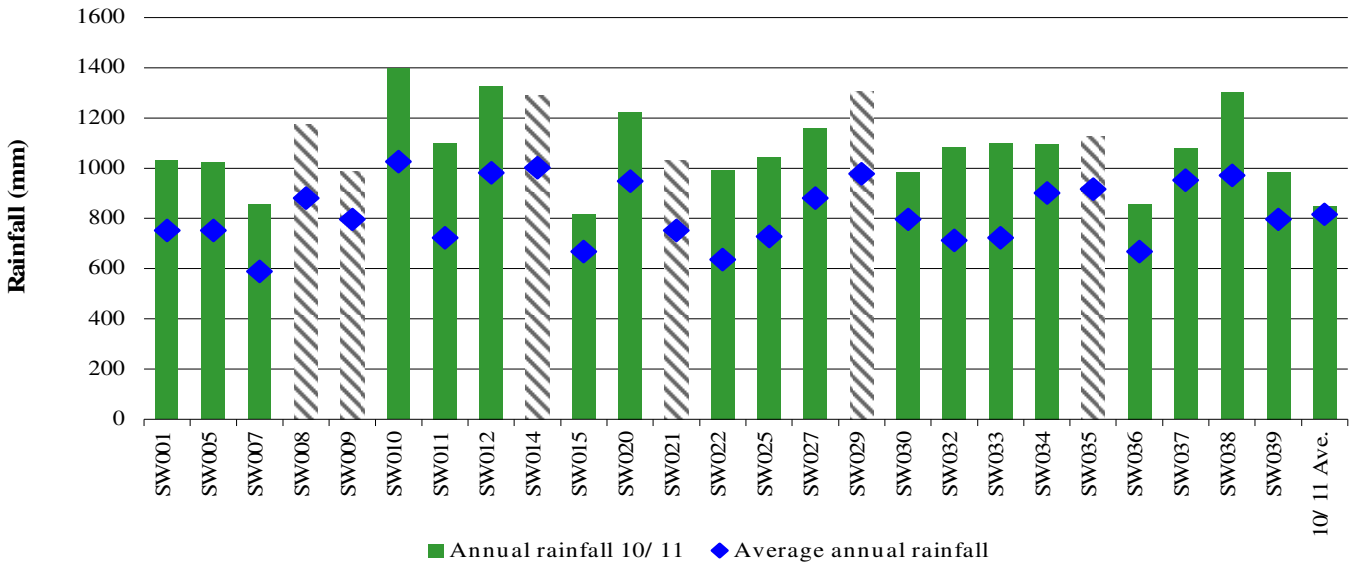


Figure 26 shows that gross income in the South West ranged from $1,838/ha to $5,841/ha.

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 top 25% of farms ranked according to earnings before interest and tax per hectare recorded higher results than the average for each physical parameter, except home grown feed as a percent of ME consumed as they were equal.

The top 25% of farms received greater rainfall, had larger total usable area and ran more milking cows per hectare than the average.

The areas where the top 25% were noticeably above the regional average were with milk production, both as per cow and per hectare, and people productivity, both milking cows/FTE and kg MS/FTE.

TABLE 6: FARM PHYSICAL DATA – SOUTH WEST

Farm physical parameters	South west average	Q1 to Q3 range	Top 25% average
Annual Rainfall 10/11	1,095	992 - 1,176	1,153
Water used (irrigation + rainfall) (mm/ha)	1,099	992 - 1,224	1,167
Total Useable Area (Hectares)	322	160 - 389	327
Milking cows per useable hectares	1.2	1.0 - 1.4	1.3
Milk Sold (kg MS /cow)	491	432 - 684	570
Milk Sold (kg MS /ha)	585	439 - 534	721
Home grown feed as % of ME consumed	67%	60% - 74%	67%
People productivity (milking cows / FTE)	89	69 - 107	116
People productivity (kg MS / FTE)	44,587	29,889 - 53,768	66,154

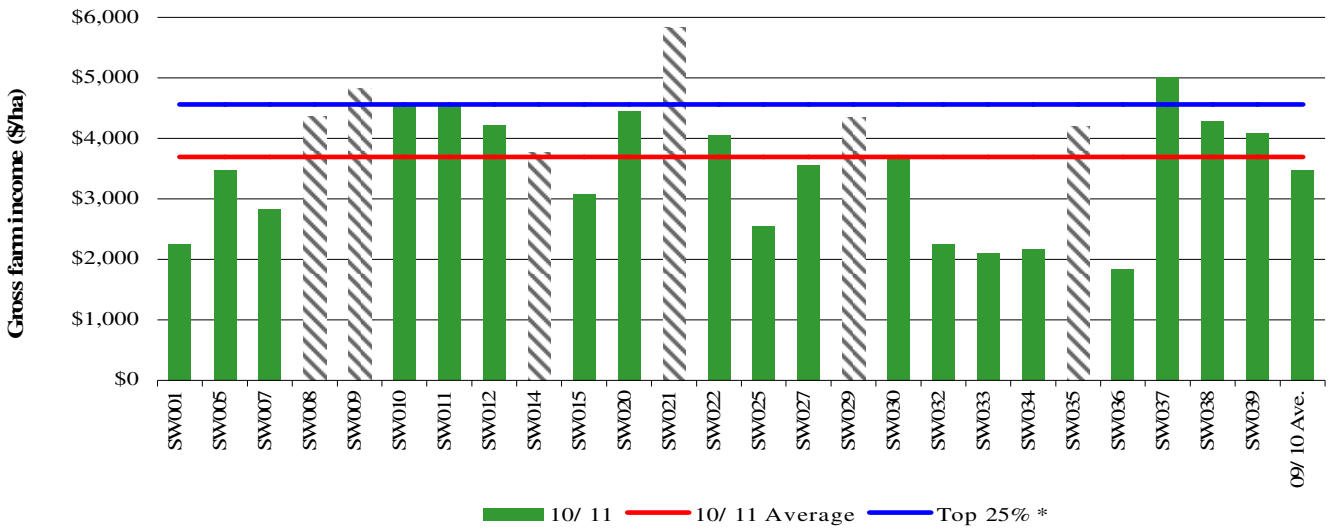
Gross farm income

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 26 shows that gross farm income in the South West ranged from $1,838 per hectare to $5,841/ha. In comparison with last years average gross farm income of $3,480/ha, this year's average increased by $218/ha to 3,698/ha, as shown by the red 10/11 average being above the 09/10 average green bar.

The farms in the top 25% recorded gross farm income within the upper half of farms in the region. This suggests that while it has an influence, high gross farm income alone does not translate to being highly profitable and that other attributes of top performers need to be examined when assessing farm performance.

FIGURE 26: GROSS FARM INCOME PER HECTARE – SOUTH WEST



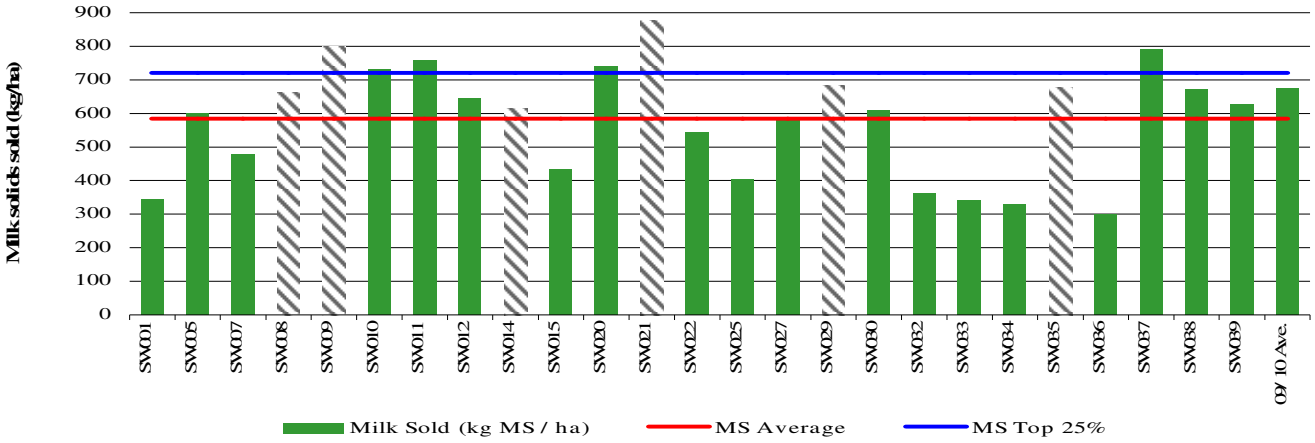
Milk solids production

The strong correlation between gross farm income and milk solids per hectare can be seen in Figures 26 and 27. The slight variation between these figures is a result of other sources of income.

The top performing farms achieved 721 kg MS/ha in the South West compared to the average farms who sold almost 25% less milk at 585 kg MS/ha.

This group average is down 13% from the previous year of 674 kg MS/ha. The decrease in milk solids sold this year has been offset by the higher milk price, shown in Figure 29 below, enabling the higher gross farm income seen this year.

FIGURE 27: MILK SOLIDS SOLD PER HECTARE – SOUTH WEST



Variable costs

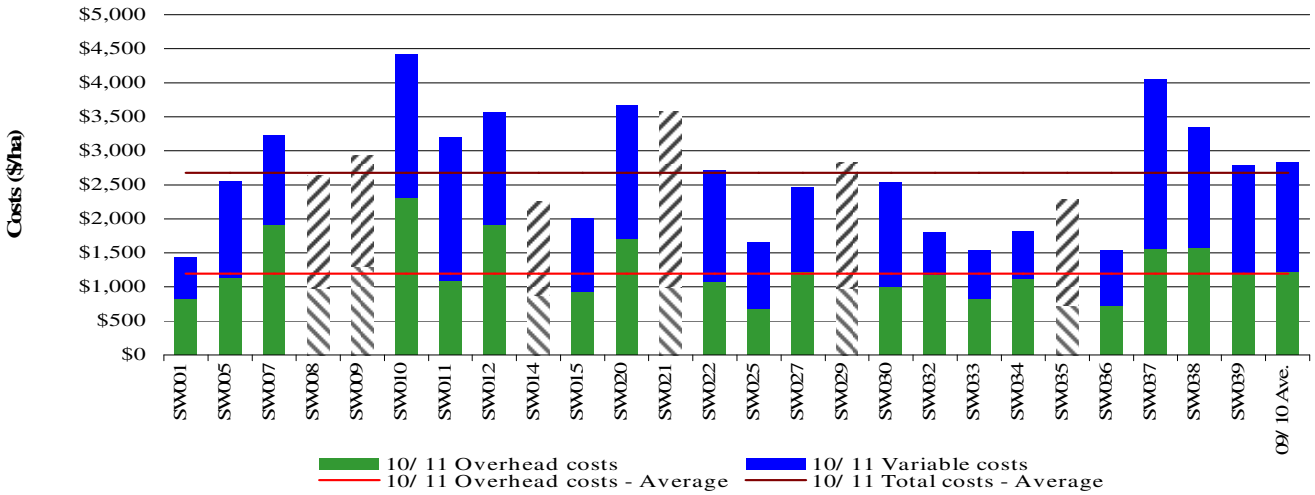
The separation of variable and overhead costs per hectare is shown in Figure 28. Variable costs are those costs that change directly according to the amount of output, such as herd, shed and feed costs.

Variable costs for the South West varied from $618/ha to $2,594/ha. On average they decreased from $1,634/ha last year to $1,482/ha in 2010/11 due mainly to lower purchased and home grown feed costs per hectare.

Feed costs were again the major variable cost on South West dairy farms accounting for 46% of total costs of production and 85% of the total variable costs the year.

The percentage breakdown of the variable costs can be found in Appendix Table B6 and Appendix Table B4 gives the costs at dollars per kilogram of milk solids sold.

FIGURE 28: WHOLE FARM VARIABLE AND OVERHEAD COSTS PER HECTARE – SOUTH WEST



Overhead costs

The calculation of overhead costs in the Dairy Industry Farm Monitor Project consists of cash and non-cash costs to the dairy business. Examples of cash overheads include rates, insurance and employed people cost, and non-cash overheads include depreciation and imputed labour.

Figure 28 also illustrates the variation in overhead costs per hectare between participant farms. Values ranged from $687 to $2,313 per hectare. The top 25% recorded lower overhead costs at $978/ha compared to the regional average of $1,194/ha.

The major overhead cost to the average South West farm was the cost of people in the business, which includes employed people and imputed labour. The cost of people represents 61% of total overhead costs. Repairs and maintenance and depreciation were the other two major overhead cost categories.

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. Cost of production is a useful risk indicator as it calculates the costs incurred to produce a kilogram of milk solids sold.

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	$0.21	$0.17 - $0.25	$0.17
Shed costs	$0.18	$0.13 - $0.20	$0.13
Purchased feed and agistment	$1.32	$1.11 - $1.47	$1.35
Home grown feed cost	$0.78	$0.62 - $0.86	$0.80
Total variable costs ($ / kg MS)	$2.48	$2.23 - $2.71	$2.45
OVERHEAD COSTS			
Rates	$0.07	$0.04 - $0.06	$0.04
Registration and Insurance	$0.02	$0.01 - $0.03	$0.02
Farm Insurance	$0.06	$0.03 - $0.08	$0.02
Repairs and Maintenance	$0.34	$0.20 - $0.46	$0.22
Bank Charges	$0.01	$0.01 - $0.01	$0.01
Other Overheads	$0.14	$0.08 - $0.19	$0.07
Employed People Cost	$0.42	$0.08 - $0.62	$0.36
Total cash overheads	$1.06	$0.73 - $1.27	$0.74
Depreciation	$0.20	$0.11 - $0.24	$0.18
Imputed People Cost	$0.89	$0.34 - $1.26	$0.45
Total overhead costs ($ / kg MS)	$2.14	$1.62 - $2.41	$1.36
Total cost of production ($ / kg MS)	$4.63	$4.13 - $5.00	$3.81

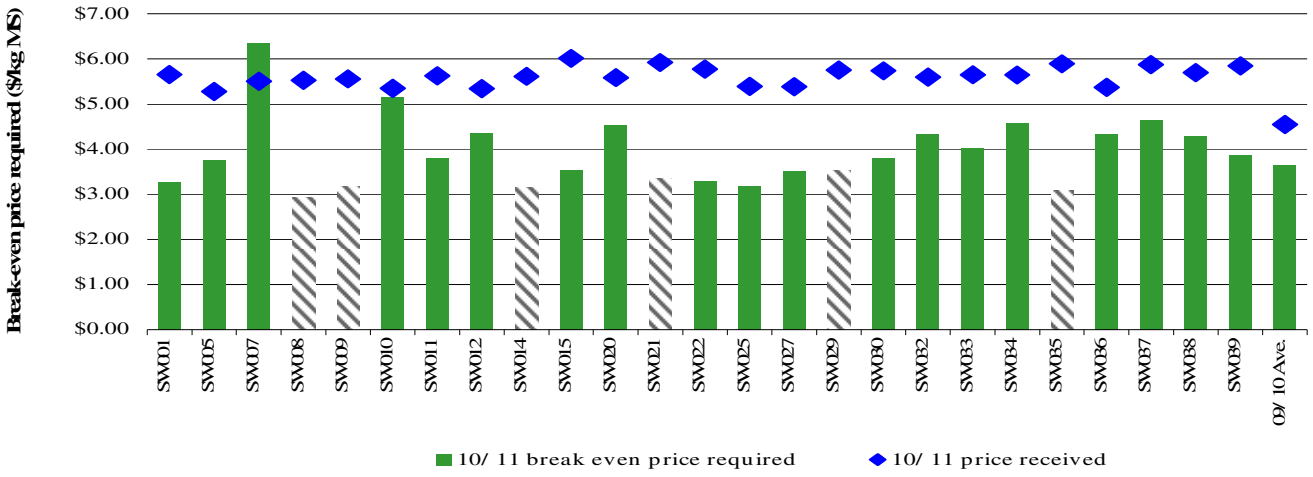
Break-even price required

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 indicator in dairying than cost of production as it can be compared directly to the price of the main output in the business, that being milk price.

Figure 29 shows that the break-even price required ranged from $2.93/kg MS to $6.35/per kg MS in the South West. The average milk price was $5.62/kg MS, well above the 2009/10 average price of $4.55/kg MS, and the distribution was $5.28 to $6.01/kg MS.

The difference between the price received and the break-even price required is the earnings before interest and tax per kilogram of milk solids sold. The average earnings before interest and tax was $1.71/kg MS, an increase of $0.80/kg MS or 88% on the previous year.

FIGURE 29: BREAK-EVEN PRICE REQUIRED PER KILOGRAM OF MILK SOLIDS SOLD – SOUTH WEST

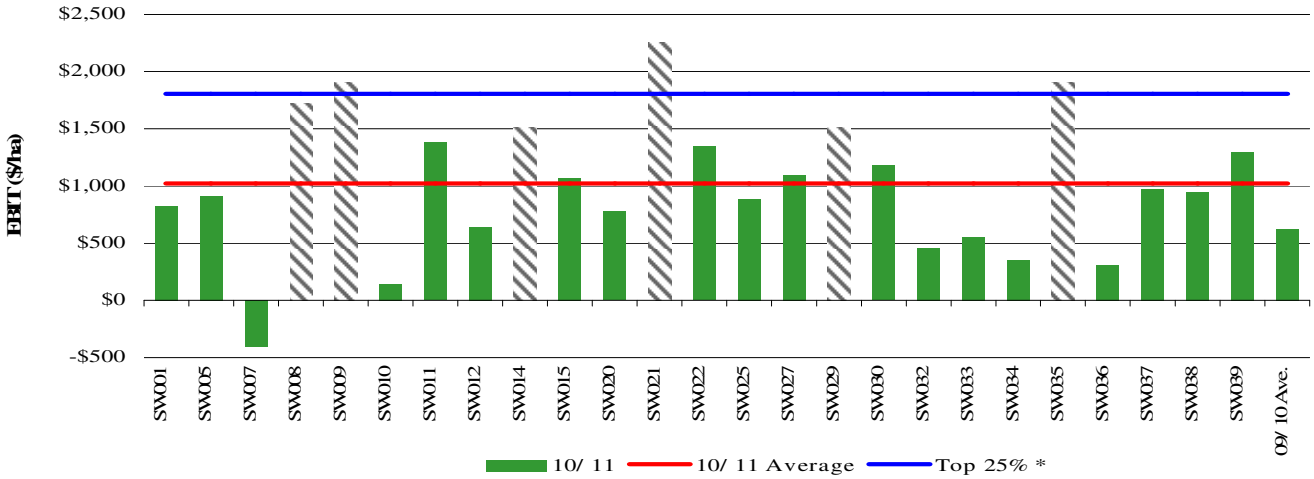


Earnings before interest and tax

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

On average EBIT per hectare increased to $1,022/ha in the South West, up from $622/ha achieved last year as shown in Figure 30. The higher gross income and lower variable and overhead costs per hectare are contributing factors to the improvement in farm returns. The strength of the top performers is highlighted by recording an average EBIT of $1,804/ha, 75% higher than the average.

FIGURE 30: WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER HECTARE – SOUTH WEST

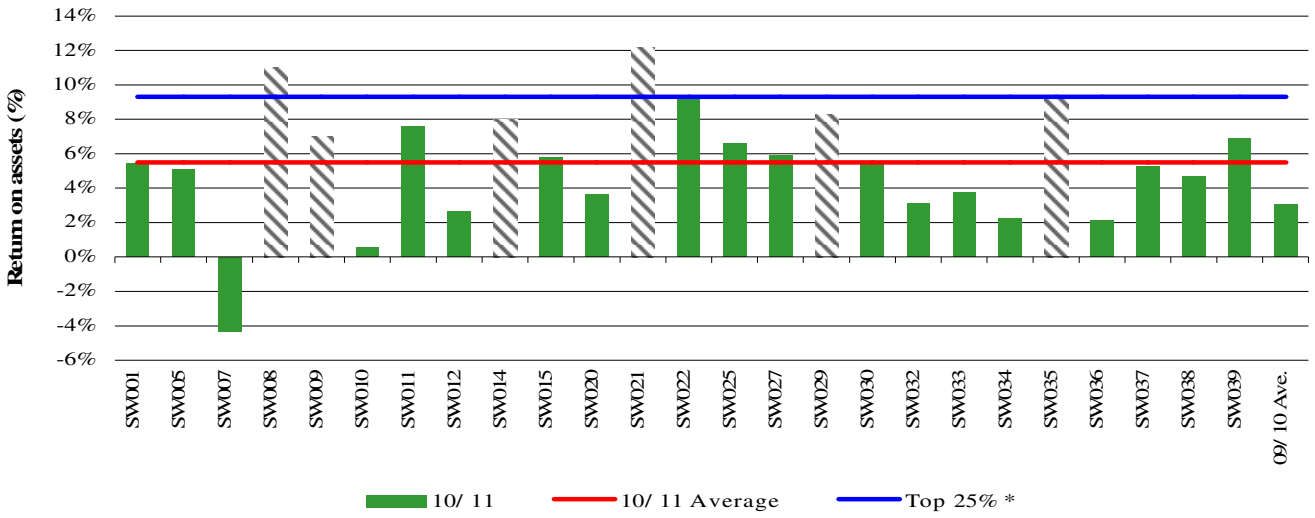


Return on assets and equity

Return on assets is the earnings before interest and tax expressed as a percentage of total assets involved in the farm business. It is an indicator of the overall earning power of total assets, irrespective of capital structure. Return on equity is the net farm income; that is EBIT minus interest and lease costs, expressed as a percentage of owner equity. It is a measure of the owner's rate of return on investment. Figures 31 and 32 were calculated excluding capital appreciation. For return on equity including capital appreciation, as well as individual farm results, refer to Appendix Table B1.

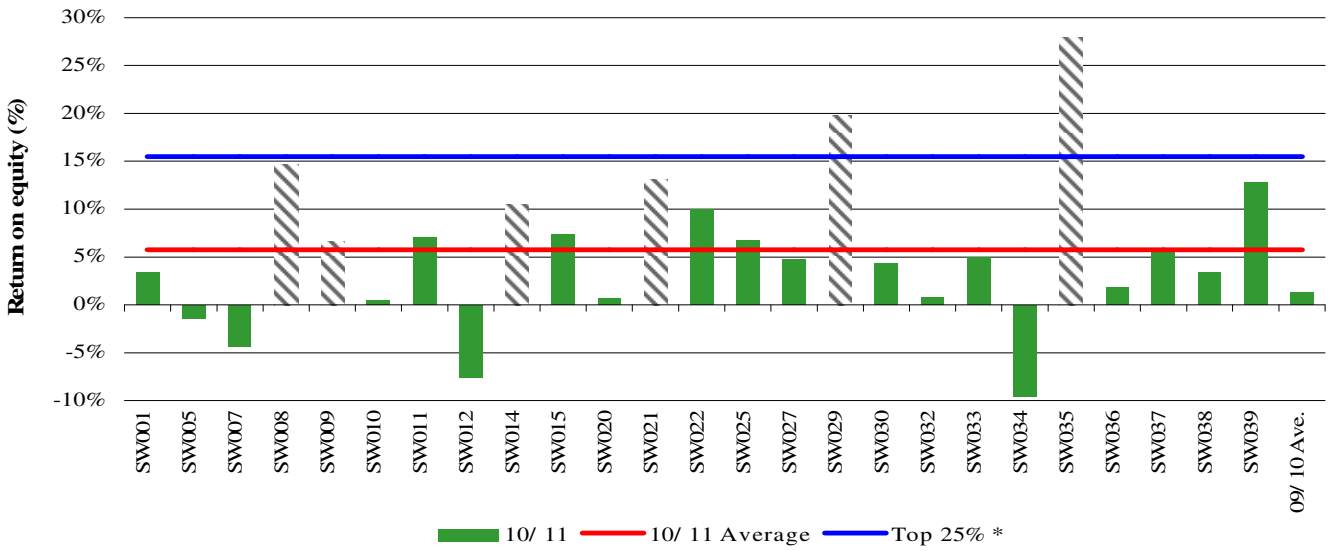
The return on assets for the South West region ranged from -4.3% to 12.2%. The improvement in farm economic efficiency can be seen by the increase in average return on asset for the group at 5.5%, up from 3.0% last year. The top 25% achieved 9.3%, compared to 6.7% recorded last year by the top performers. .

FIGURE 31: RETURN ON ASSETS – SOUTH WEST



This year return on equity had a large range from -9.6% up to 28.0% as shown in Figure 32. The average increased to 5.8% this year, a substantial increase from 1.3% recorded last year. Noticeably more farms achieved a positive return on equity compared to the previous two years.

FIGURE 32: RETURN ON EQUITY – SOUTH WEST



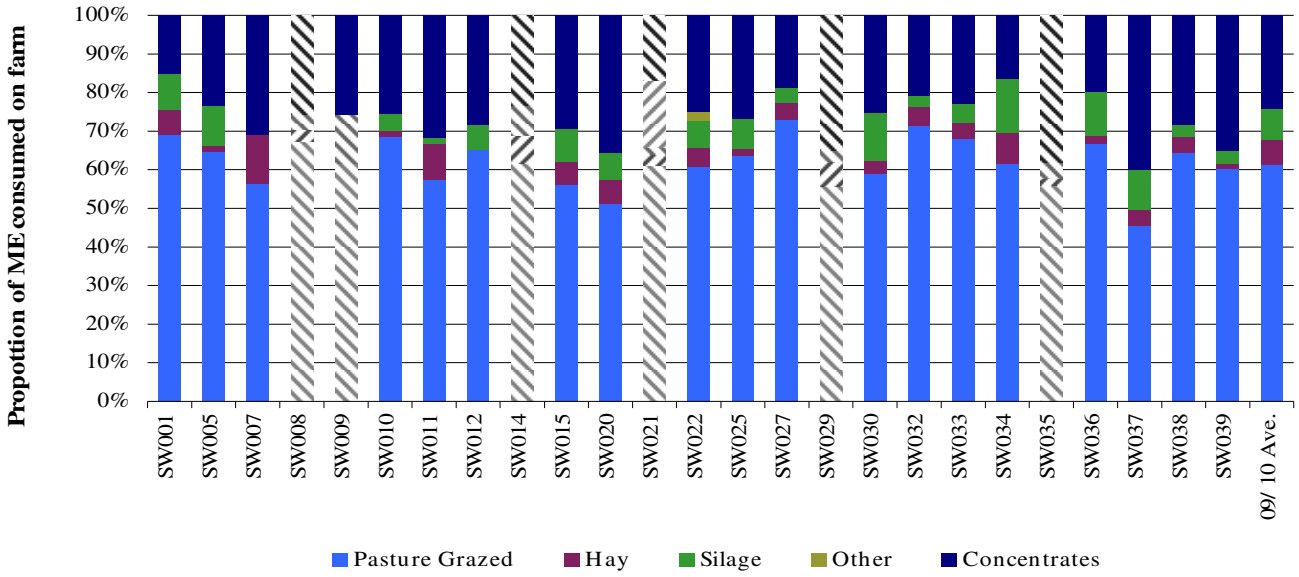
Feed consumption and fertiliser

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

Figure 33 shows the relative contribution of each feed type to the ME consumption on the farm. Grazed pasture contributes at least 46% of the ME consumed for all farms in the South West and 73% was the maximum. On average the total supplements fed represents 38% of ME consumed on farm, of which 27% were concentrates.

'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 other feed.

FIGURE 33: SOURCES OF WHOLE FARM METABOLISABLE ENERGY – SOUTH WEST

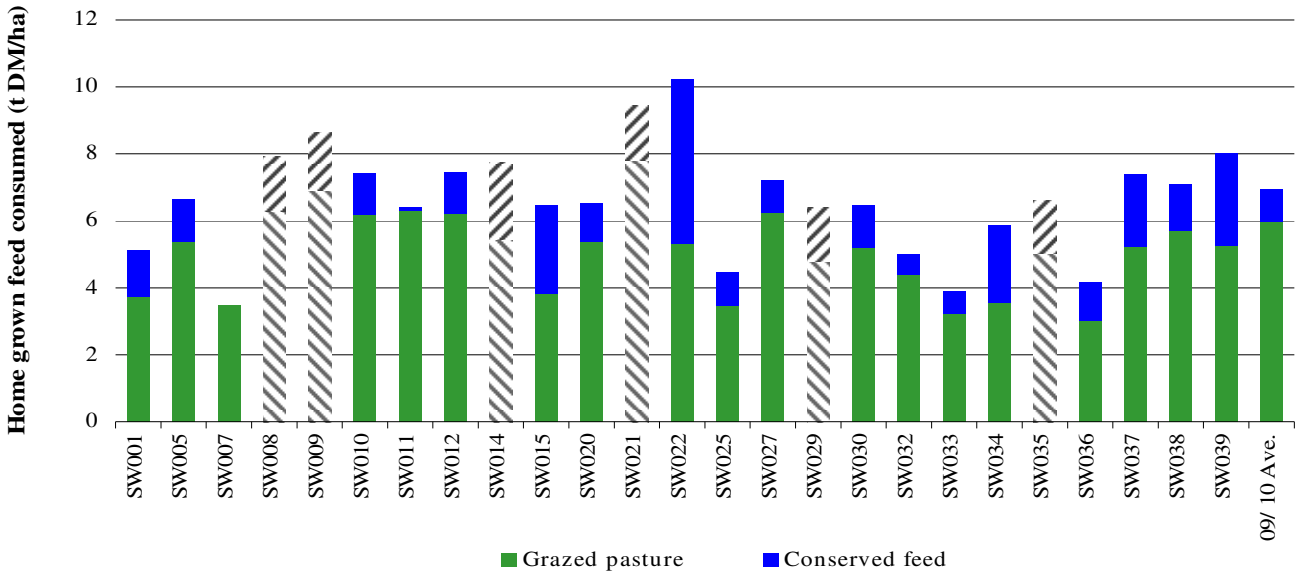


The estimated home grown feed consumption per usable hectare for farms in the South West is shown in Figure 34. This ranged from 3.5 tonnes of dry matter per hectare up to 10.2 t DM/ha.

There was a slight decrease in grazed pasture this year, decreasing from 6.0 t DM/ha last year to 5.1 t DM/ha this year. However there was a 0.6 t DM/ha increase in conserved fodder, increasing to 1.6 t DM/ha this year reflecting the good spring.

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

FIGURE 34: ESTIMATED TONNES OF HOME GROWN FEED CONSUMED PER HECTARE – SOUTH WEST

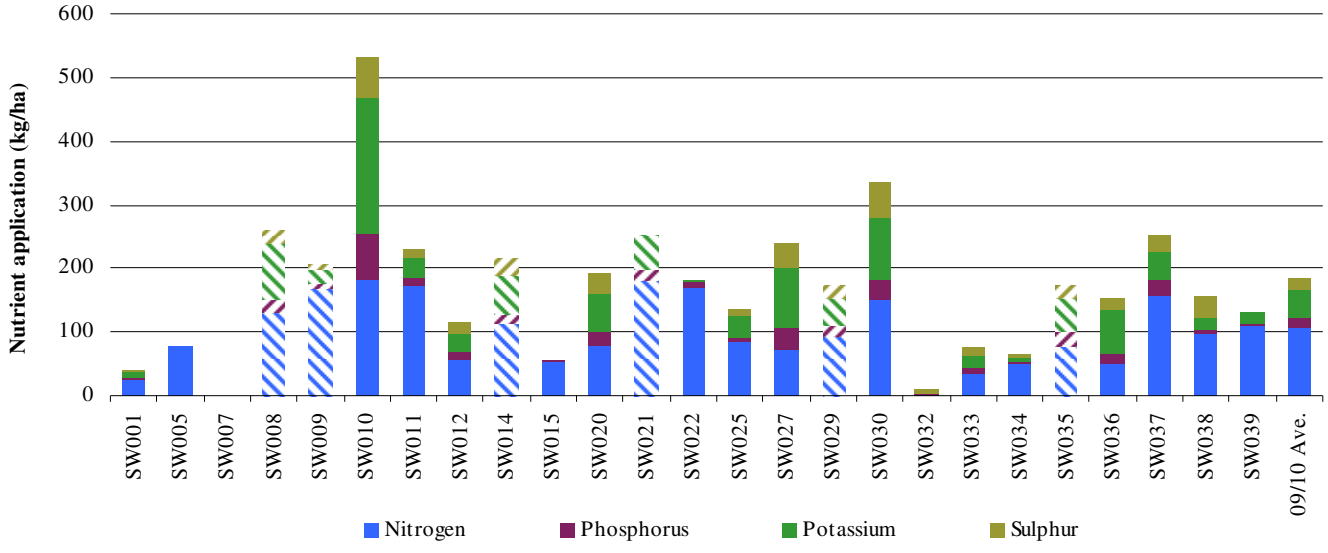


Fertiliser application

The proportion of nutrients in fertiliser applied per hectare on farm is shown in Figure 35. Figures 34 and 35 show limited signs of correlation and 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 26 kg/ha (excluding the 0kg/ha values) to up to 183 kg/ha. The average was 96 kg/ha, down from 106 kg/ha last year.

The individual values relating to Figure 34 can be found in Appendix Table B2.

FIGURE 35: NUTRIENT APPLICATION PER HECTARE – SOUTH WEST



Part Four: Gippsland

Gippsland

Farms GI004 to GI017 are participating in the project for their fifth year and GI010 returns to the project for their fourth year. Farms GI020 to GI043 were involved in the 2009/10 project. Please refer to page 3 for notes on the presentation of this data.

2010/11 Seasonal conditions

Rainfall across the Gippsland region during 2010/11 is presented in Figure 36. The wet year for Gippsland farms is shown by the annual rainfall exceeding the long term average for all but one participant; GI020, with some farms experiencing up to 141% of their long term average.

In Gippsland the 2010/11 financial year began with good levels of pasture which had resulted from a very good autumn, where there was sufficient rain to produce pasture to carry into winter. The early part of winter was quite kind in the main with soils not being too wet, particularly in some parts of eastern Gippsland which were a little on the dry side. However the latter part of winter saw some high rainfall making much of south and west Gippsland difficult to graze without causing pugging damage.

The onset of spring saw the wet continue until the middle of September, when there was a window of opportunity to fix damaged paddocks and to make silage from any pasture surplus. This drier period carried through until mid October, when the rain returned and did not really let up until late November. Through this time many were trying to make silage and while there were large quantities made it was lower quality than desired.

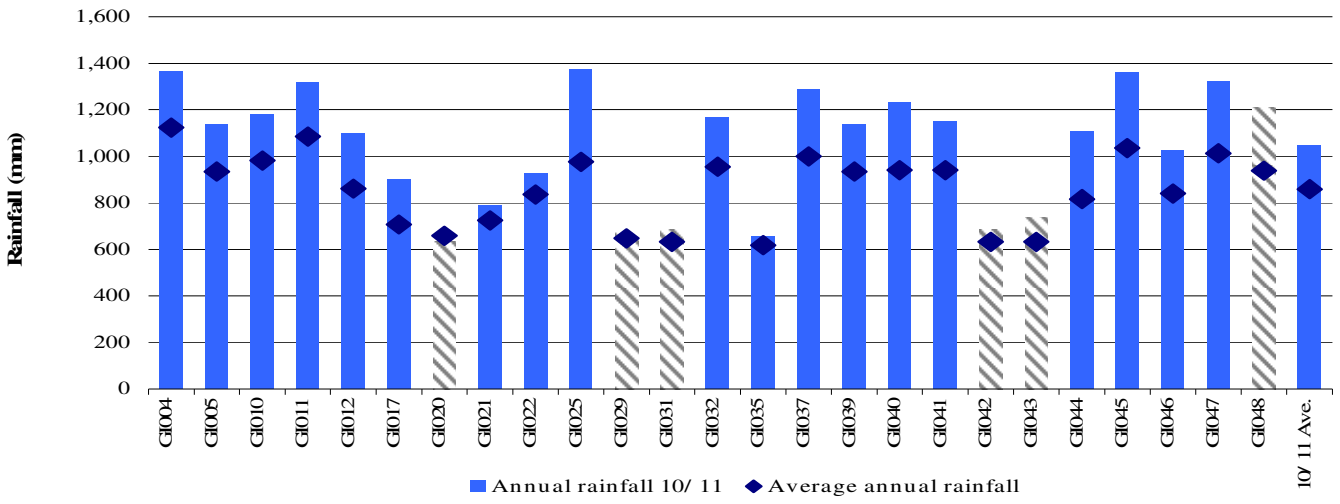
Eastern Gippsland continued to remain a little drier than south and west Gippsland with the Macalister Irrigation District getting around 100% of their high reliability water share allocation plus 100% low reliability water share allocation. This was welcome considering they had not received similar rainfall to the western parts.

Hay conservation began in mid to late December and continued well into January on many properties due to regular rain events. Thus hay quality was also affected. The rain continued right through summer and into the autumn. Many had adequate green growing pastures right through this time and did not find it necessary to feed out large quantities of silage to fill feed gaps. However, the ongoing wet made it difficult for paddock repair work or crop planting and in many situations these works were not completed. The eastern areas continued getting some rain to grow pastures but not to fill dams.

Rain continued to come at regular intervals right into winter and this meant any surplus pasture that resulted from the excellent summer and autumn was beginning to disappear. This necessitated silage and hay reserves needing to be used to top up pastures and grain. The pastures however, on many grey soil farms were by now very wet and pugging and cow lameness was becoming a real issue again.

*Top 25% * - The top 25% are shown as the lighter bars in all graphs as ranked by earnings before interest and tax per hectare.*

FIGURE 36: 2010/11 ANNUAL RAINFALL AND LONG TERM AVERAGE RAINFALL – GIPPSLAND



The variation in gross income per hectare between participants in Gippsland, ranged from $2,238/ha to $12,362/ha.

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 physical parameters where the top 25% of farms ranked by earning before interest and tax per hectare was greater than the Q1-Q3 range shows some of the characteristics of the most profitable farms per hectare.

These characteristics of top farms are the greater number of milking cows per hectare, 2.3 cows/ha compared to 1.2-2.0 for the middle band, and greater people productivity at 110 milking cows/FTE compared to 81-105 range and 56,586 kg MS/FTE compared to 41,792 – 53,902 range.

The top 25% of farms lie within the middle band of rainfall, water used and usable hectares suggesting these parameters have less influence over profitability for these farms in the dataset.

It must be noted these physical parameters only partly explain the determinants of the most profitable farms per hectare. Caution must be taken when looking at these physical parameters in isolation.

The average had greater annual rainfall at 1,047 mm compared to 773 mm for the top producers and greater usable area at 190 ha compared to 181 ha for the top producers.

TABLE 8: FARM PHYSICAL DATA – GIPPSLAND

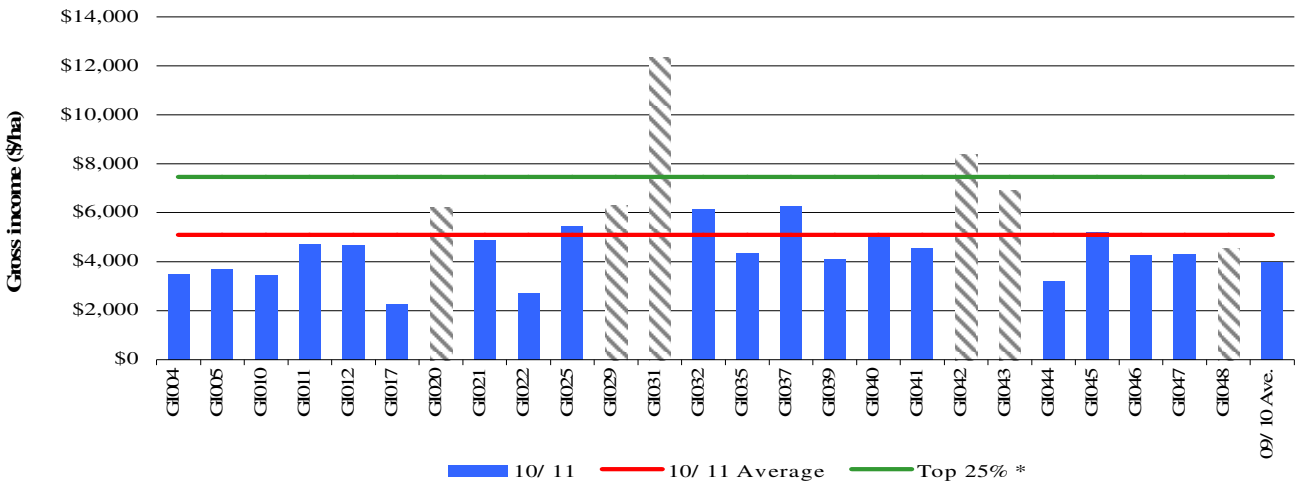
Farm physical parameters	Gippsland average	Q1 to Q3 range	Top 25% average
Annual rainfall 10/11	1,047	777 - 1,246	773
Water used (irrigation + rainfall) (mm/ha)	1,123	982 - 1,246	1,042
Total useable area (hectares)	190	110 - 239	181
Milking cows per useable hectares	1.6	1.2 - 2.0	2.3
Milk Sold (kg MS /cow)	494	611 - 960	512
Milk Sold (kg MS /ha)	811	448 - 537	1,198
Home grown feed as % of ME consumed	69%	0.6 - 0.8	68%
People productivity (milking cows / FTE)	97	81 - 105	110
People productivity (kg MS / FTE)	48,138	41,792 - 53,902	56,586

Gross farm income

Gross farm income includes all farm income, whether that is income from milk sales, an increase in stock or feed inventories 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, personal or family income support is not included.

Figure 37 below shows the variation in gross income per hectare between participants in Gippsland, ranging from $2,238/ha up to $12,362/ha. The top 25% of farms averaged $7,461/ha, compared to the group average of $5,101/ha.

FIGURE 37: GROSS FARM INCOME PER HECTARE – GIPPSLAND

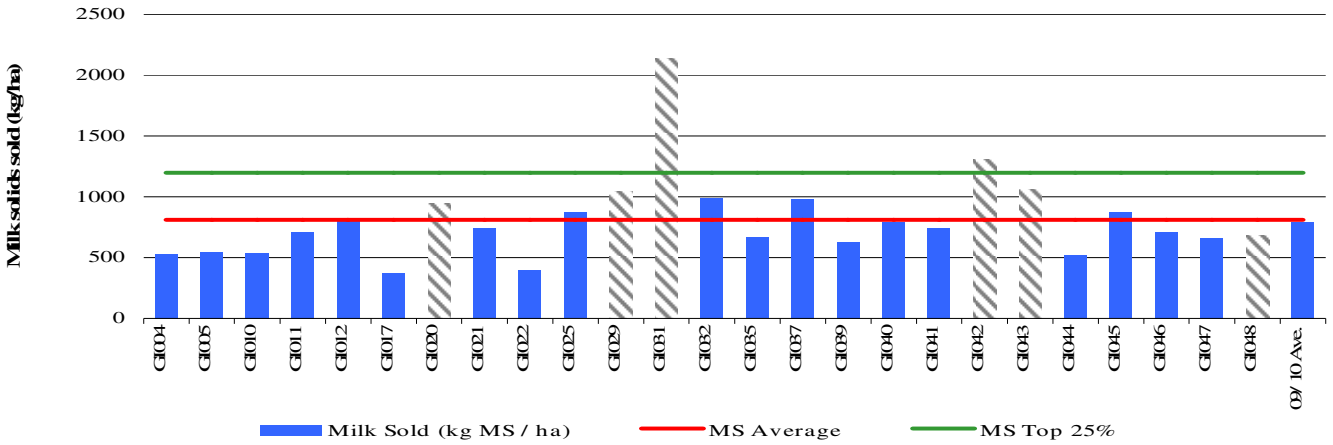


Milk solids production

In 2010/11 average milk solids sold per hectare slightly increased on average to 811 kg MS/ha, rising from 2010/11 levels of 792 kg MS/ha. Similarly the top 25% of farms average kilograms of milk solids per hectare increased 38% from 2009/10 levels to 1,198 kg MS/ha. There does not appear to be any strong link between milk solids sold per hectare with either annual rainfall or the long-term average for individual farms.

The strong correlation between gross income and milk solids sold per hectare can be seen between figures 37 and 38. Minor across-farm differences can be explained by differences in the milk price received and income received from other sources by the individual farms.

FIGURE 38: MILK SOLIDS SOLD PER HECTARE – GIPPSLAND



Variable costs

The separation of variable and overhead costs per hectare is shown in Figure 39. Variable costs are those costs that change directly according to the amount of output, such as herd, shed and feed costs.

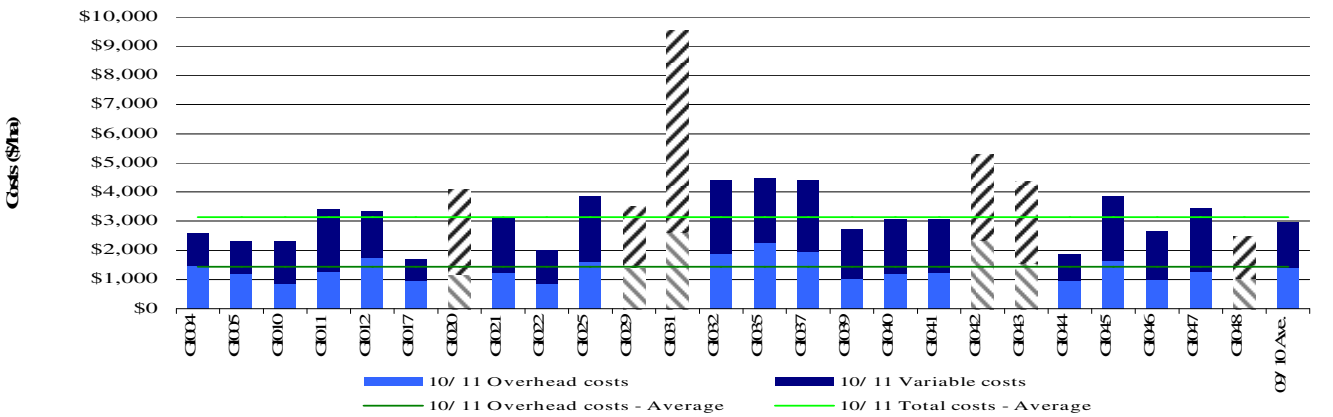
Variable costs for the Gippsland region varied from $754/ha to $6,921/ha. This year average variable costs increased to $1,710/ha from $1,552 in 2009/10.

Feed costs are the greatest cost in the dairy business representing 47.2% of total costs on Gippsland farms.

Feed costs rose this year which is attributable to the increase in grain and concentrates from $766/ha ($0.94/kg MS) last year to $955/ha ($1.13/kg MS) this year. The rise in concentrate price from $285 per tonne to $315 per tonne and the increase in amount purchased from 1.8 tonnes per cow to 2.0 tonnes per cow is the cause of this increased spending on grain and concentrates this year.

The percentage breakdown of the variable costs can be found in Appendix Table B6 and Appendix Table B4 gives the costs at dollars per kilogram of milk solids sold.

FIGURE 39: WHOLE FARM VARIABLE AND OVERHEAD COSTS PER HECTARE – GIPPSLAND



Overhead costs

Figure 39 also illustrates the overhead costs per hectare for Gippsland. This figure includes the non cash overhead costs of imputed people cost for labour and management and depreciation. Both these cost categories are important costs to be considered in an economic analysis of a business to realistically monitor farm business performance.

People cost, including employed people and imputed people costs, was the major overhead cost, accounting for 61% of overhead costs for the regional average, and 66% in the top 25% of farms. The break down of overheads cost per hectare as a percent of the total costs can be found in Appendix Table C7 and Appendix Table C5 for a breakdown to dollars per kilogram of milk solids.

There was a range of total expenditure on overhead costs in Gippsland during 2010/11. The highest value was $2,628/ha; three times the level of the lowest value of $834/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 39 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. When cost of production is expressed as per kilogram of milk solids sold, the cost of production can be a useful risk ratio. By comparing cost of production per kg MS sold to gross income, the average operating margin, ie EBIT/ kg MS, can be obtained.

As mentioned in the overhead costs section imputed people cost and depreciation are very important non-cash costs to be considered in an economic analysis of a business. However, table 9 has these costs separated out allowing owner/operators to distinguish their own cost of labour and where cash flows occur in the business.

TABLE 9: COST OF PRODUCTION – GIPPSLAND

Farm costs ($ / kg MS)	Gippsland average	Q1 to Q3 range	Top 25% average
VARIABLE COSTS			
Herd costs	$0.28	$0.20 - $0.35	$0.25
Shed costs	$0.19	$0.13 - $0.21	$0.16
Purchased feed and agistment	$1.24	$1.06 - $1.42	$1.29
Home grown feed cost	$0.81	$0.64 - $0.99	$0.86
Total variable costs ($ / kg MS)	$2.52	$2.24 - $2.76	$2.56
OVERHEAD COSTS			
Rates	$0.05	$0.04 - $0.07	$0.04
Registration and Insurance	$0.01	$0.01 - $0.02	$0.01
Farm Insurance	$0.05	$0.04 - $0.07	$0.05
Repairs and Maintenance	$0.28	$0.17 - $0.37	$0.19
Bank Charges	$0.01	$0.00 - $0.01	$0.01
Other Overheads	$0.09	$0.06 - $0.11	$0.06
Employed People Cost	$0.43	$0.17 - $0.54	$0.54
Total cash overheads	$0.93	$0.71 - $1.06	$0.90
Depreciation	$0.22	$0.44 - $0.89	$0.14
Imputed People Cost	$0.70	$0.13 - $0.29	$0.40
Total overhead costs ($ / kg MS)	$1.86	$1.54 - $2.03	$1.43
Total cost of production ($ / kg MS)	$4.38	$4.11 - $4.51	$3.99

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, being milk. The difference between the break-even price required and the price received is the earnings before interest and tax per unit.

Figure 40 shows that the break-even price required varied from $2.67 per kg MS to $5.77 per kg MS in Gippsland.

The average breakeven milk price required of 3.63/kg MS was slightly higher than $3.59/kg MS recorded last year.

This was more than offset however by the large increase in milk price to $5.59/kg MS compared to $4.38/kg MS last year. The greater milk price recorded this year can be seen in the figure below where the 09/10 average milk price diamond is lower than the milk price for all individual farms.

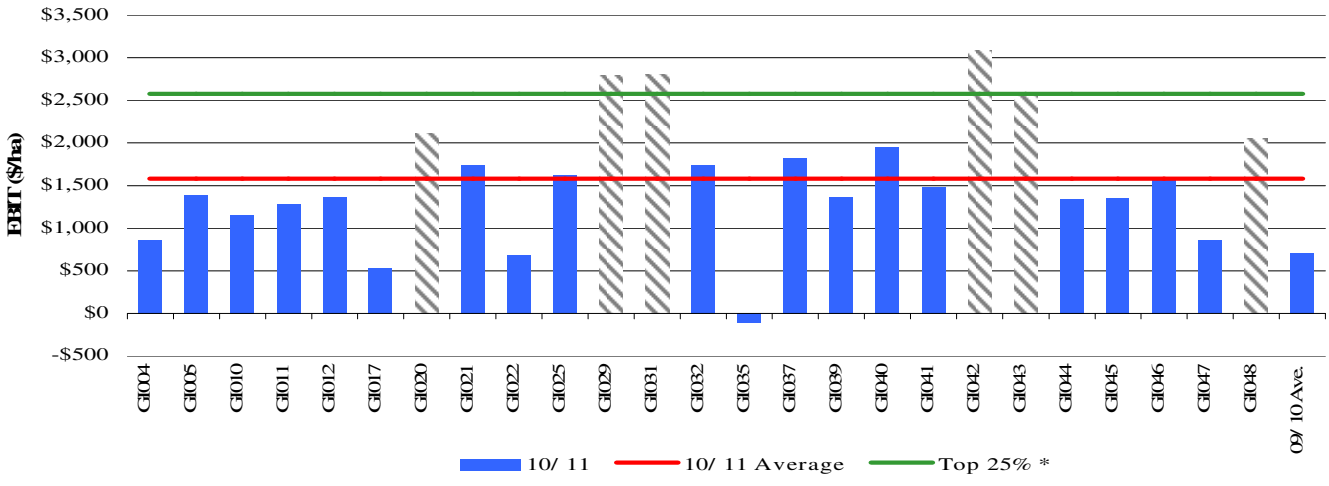
FIGURE 40: BREAK-EVEN PRICE REQUIRED PER KILOGRAM OF MILK SOLIDS SOLD – GIPPSLAND

Earnings before interest and tax

Earnings before interest and tax (EBIT) is the gross income, less variable and overhead costs including imputed costs.

During 2010/11 there was a large turnaround in EBIT on average for Gippsland farms from $713/ha recorded last year to $1,580/ha this year. The top 25% of farms recorded average EBIT of $2,575/ha a significant increase from $1,505/ha recorded last year. The increase in EBIT this year can be attributed to the higher milk production and price, contributing to greater gross farm income which has more than offset the increase in costs of $268/ha.

FIGURE 41: WHOLE FARM EARNINGS BEFORE INTEREST AND TAX PER HECTARE – GIPPSLAND



Return on assets and equity

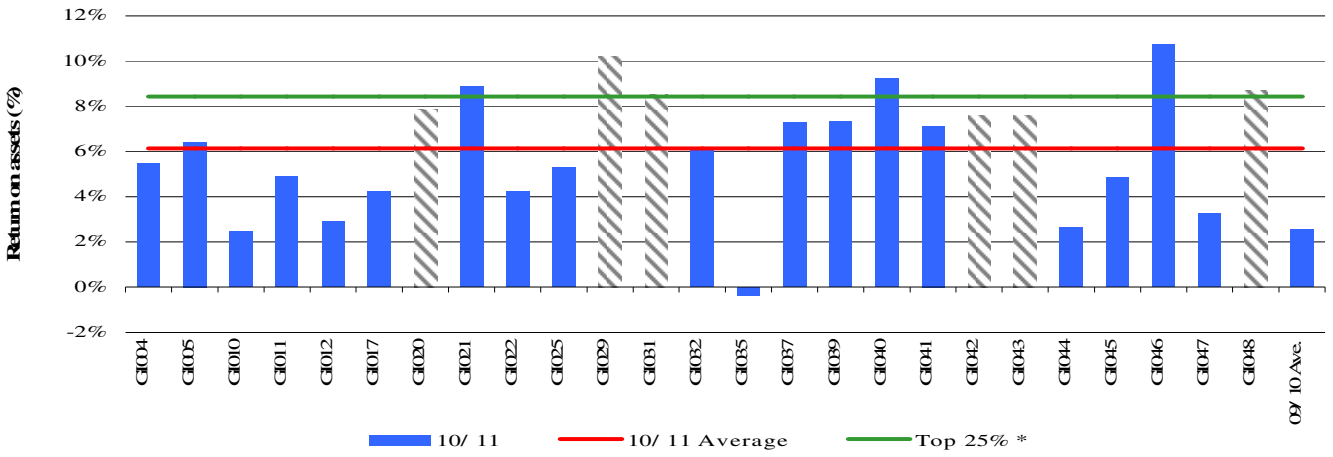
Return on assets is the earnings before interest and tax expressed as a percentage of total assets. It is an indicator of the earning power of total assets, irrespective of capital structure. Return on equity is the net farm income (earnings before interest and tax less interest and lease payments) expressed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

The variation between farms return on assets will reflect the variation between farms earnings before interest and tax, with differences between those farms with a similar EBIT 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 -0.4% to 10.7% during 2010/11. The average of 6.1% return on assets for Gippsland is noticeably higher than last years result of 2.6%, as shown by the red 10/11 average line well above the 09/10 average bar.

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 earnings before interest and tax. When the percentage increases, it is the result of a higher return from the additional assets than the interest or lease rate.

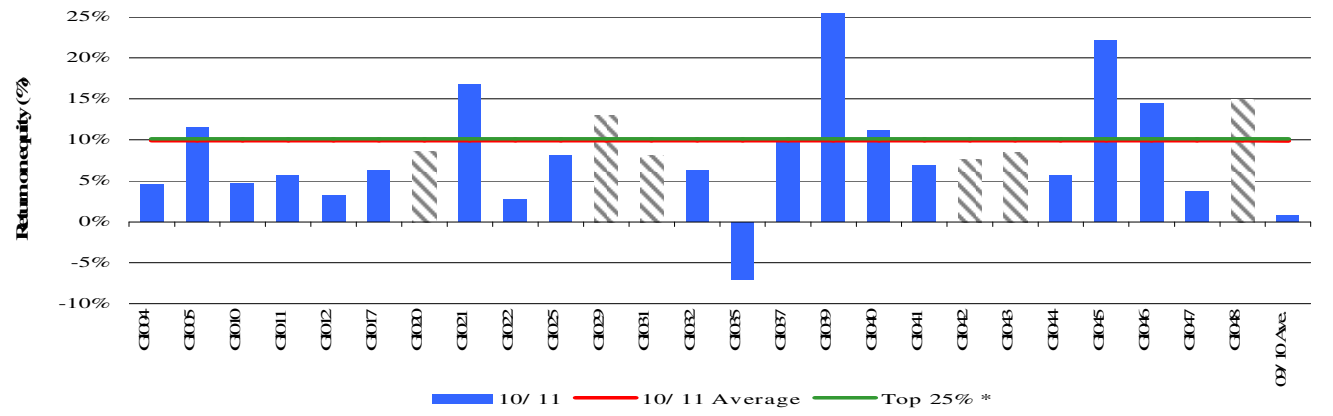
FIGURE 42: RETURN ON ASSETS – GIPPSLAND



Gippsland had varied, and mostly positive, return on equity results ranging from -7% to 50% for farm GI039 which is not displayed fully on the graph below. These results are noticeably greater than last year where 14 farms recorded negative returns to equity last year compared to only one farm this year.

This year farms that manage a significant proportion of leased land or that have low total equity have recorded considerably higher return on equity to the average, such as GI039. Also there is very little difference between the average at 9.9% and the top 25% of farms at 10.2% return on equity. The capital values can be seen in Appendix C1.

FIGURE 43: RETURN ON EQUITY – GIPPSLAND



Feed consumption and fertiliser

Figure 44 shows that Gippsland dairy farming systems were predominantly pasture based, with all farms except two sourcing at least half their energy requirement as grazed pasture.

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 18 of Part One – Statewide or in Appendix E.

Concentrates provided the next greatest energy source after pasture consumption averaging 27% of energy in the diet. The intake of concentrates ranged from 15% to 45% of all metabolisable energy (ME) consumed.

'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 other feed.

FIGURE 44: SOURCES OF WHOLE FARM METABOLISABLE ENERGY – GIPPSLAND

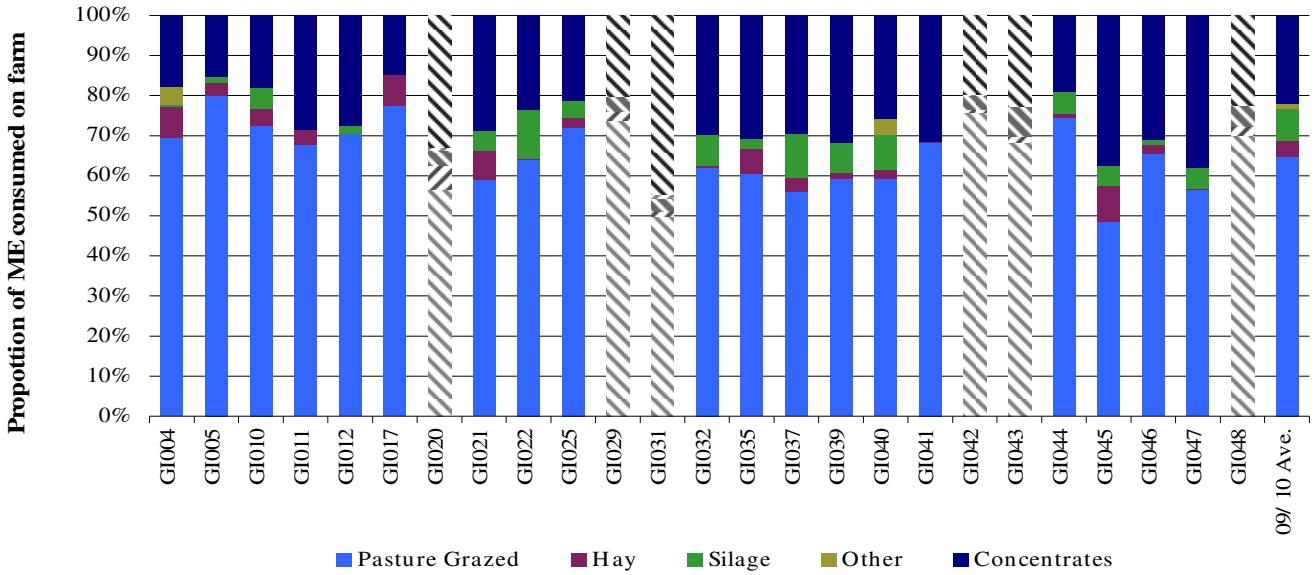
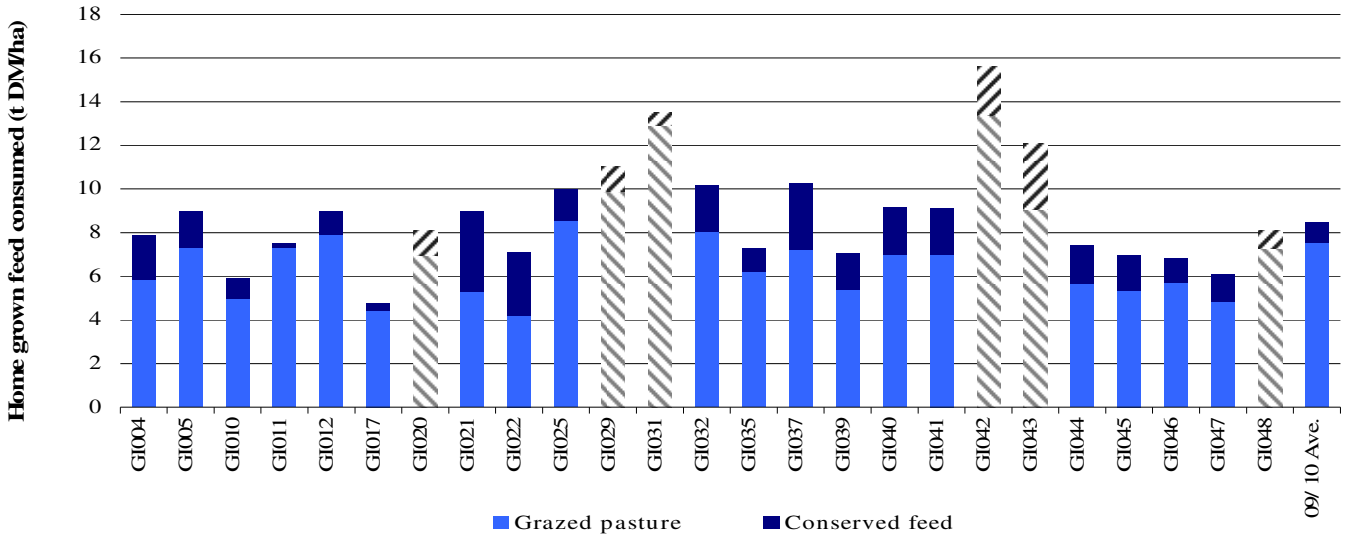


Figure 45 shows the estimated tonnes of home grown feed consumed per usable hectare for farms in Gippsland. Home grown feed can be grazed pasture (shown by the bottom lighter blue bars) and conserved pasture (shown by the top darker blue bars). Total home grown feed ranged from 4.8 tonnes of dry matter per hectare up to 15.6 tonnes per hectare. The average home grown feed consumed per hectare was 8.8 t DM and the top 25% of farms averaged 11.4 t DM/ha.

As described above in the 10/11 seasonal conditions, there was considerable pasture growth through the 2010 winter allowing significant conservation of silage and hay. This is evident by the increase in conserved feed from 0.9 t DM/ha last year to 1.7 t DM/ha on average this year. All participants conserved feed this year compared to 88% of participants conserving feed last year.

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

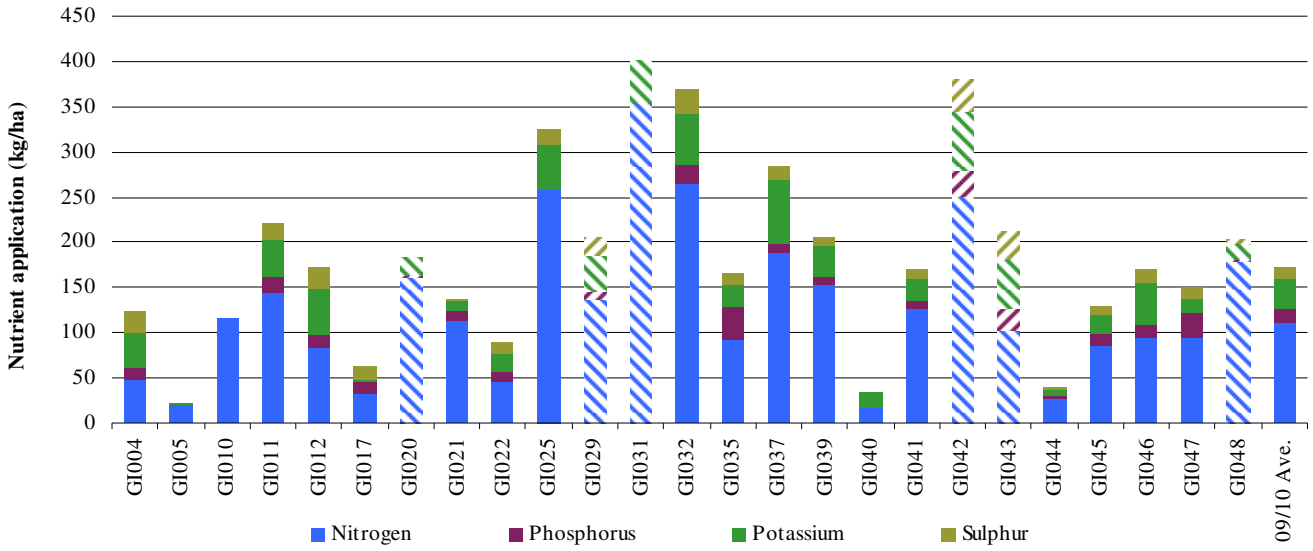


Fertiliser application

Farms in Gippsland used a wide range of fertiliser application rates, both between farms and with the mix of key macronutrients on individual farms. Application of nitrogen varied from 17kg/ha up to 353kg/ha, with the group average at 130kg/ha and the top 25% applied at 198kg/ha of nitrogen.

There appears to be some degree of correlation between the pasture growth per hectare and fertiliser application rates as seen in Figures 45 and 46. The farms that had the greatest home grown feed per hectare were among the highest fertiliser application rates. There were seven farms that grazed and conserved at least 10.0 t DM/ha of home grown feed who applied at least 200 kg/ha fertiliser per hectare. Although it should be noted that grazing strategies and timing of rainfall and irrigation scheduling would also impact pasture growth and consumption. The values for Figure 45 can be found in Appendix Table C2.

FIGURE 46: NUTRIENT APPLICATION PER HECTARE – GIPPSLAND



Part Five: Business Confidence Survey

Expectations, issues and owner/operator time and holidays

Responses to this business confidence survey were made in June and July 2011 with regard to the 2011/12 financial year.

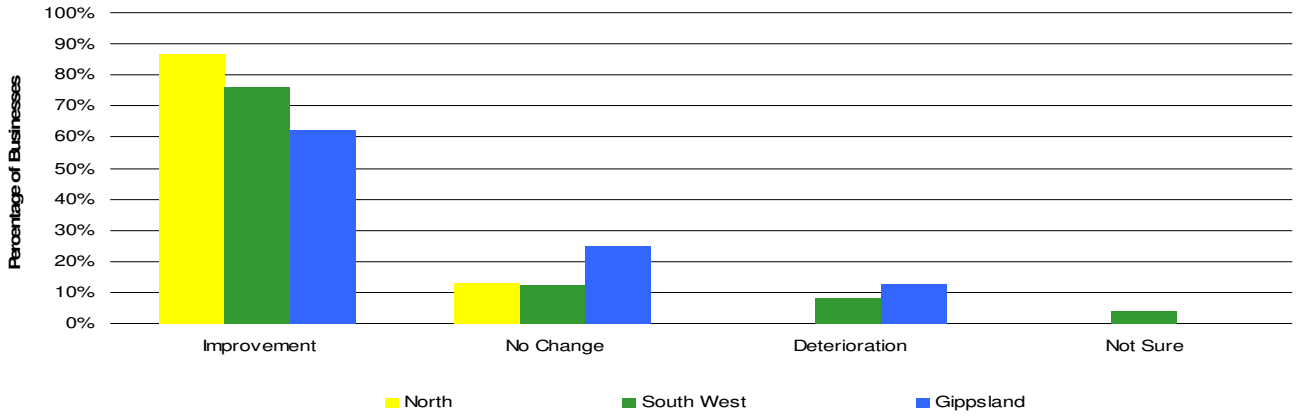
Expectations for business returns

Similar to expectations recorded this time last year, business returns for 2011/12 are overwhelmingly expected to improve. This sustained confidence in the dairy industry comes on the back of the increased milk price, improved seasonal conditions and good water allocations.

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

Across all three regions three quarters of participants expect their farm business returns to improve in 2011/12, as shown in Figure 47.

FIGURE 47: EXPECTED CHANGE TO FARM BUSINESS RETURNS IN 2011/12

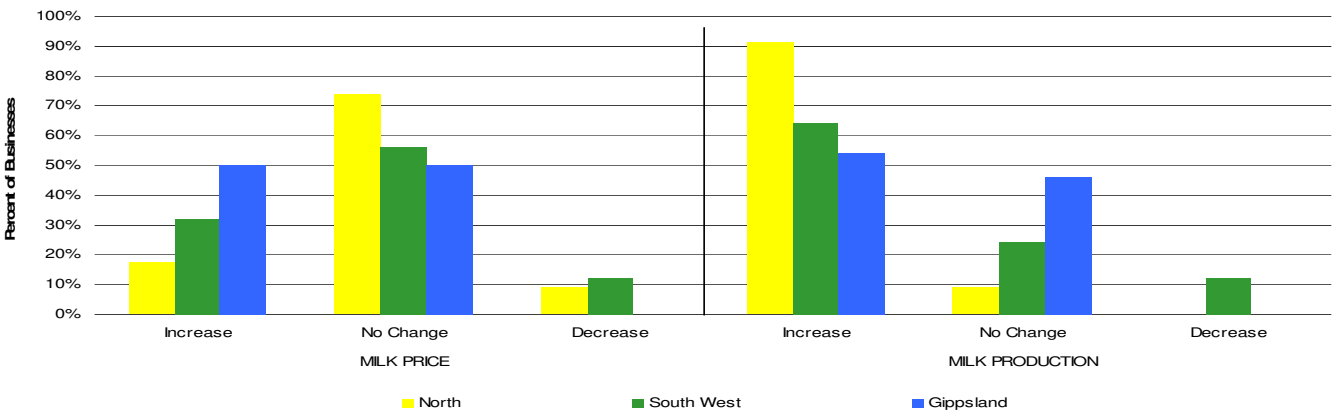


Price and production expectations - milk

The majority of North and South West farmers are expecting their milk price to remain unchanged in 2011/12. Gippsland participants are evenly split between milk price increasing and remaining unchanged in the coming year.

There is more confidence that milk production will increase than milk price. Around 91% of North farms expect that the milk production will increase in the coming year compared to 17% saying milk price will increase. The majority of South west (64%) and Gippsland (54%) farms also expect milk production to increase next year.

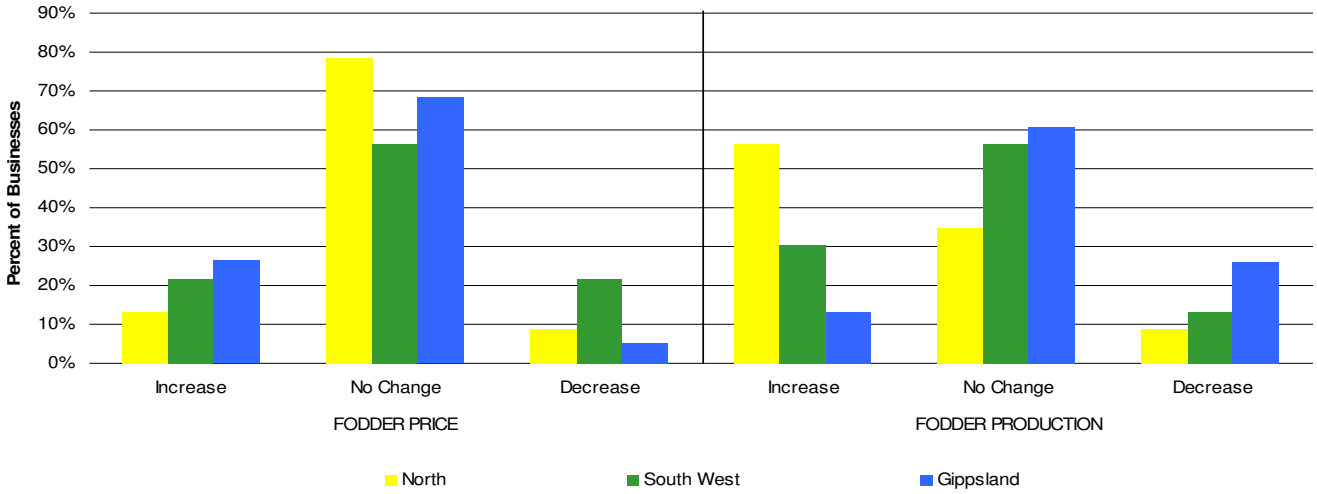
FIGURE 48: PRODUCER EXPECTATIONS OF PRICES AND PRODUCTION OF MILK IN 2011/12



Price and production expectations - fodder

Over fifty percent of all farms are expecting fodder prices to remain unchanged next year (Figure 49). Fodder production is also expected to remain unchanged for the majority of South West (57%) and Gippsland (61%) participants, however in the North most farms (57%) are expecting to conserve more fodder than last year.

FIGURE 49: PRODUCER EXPECTATIONS OF PRICES AND PRODUCTION OF FODDER IN 2011/12

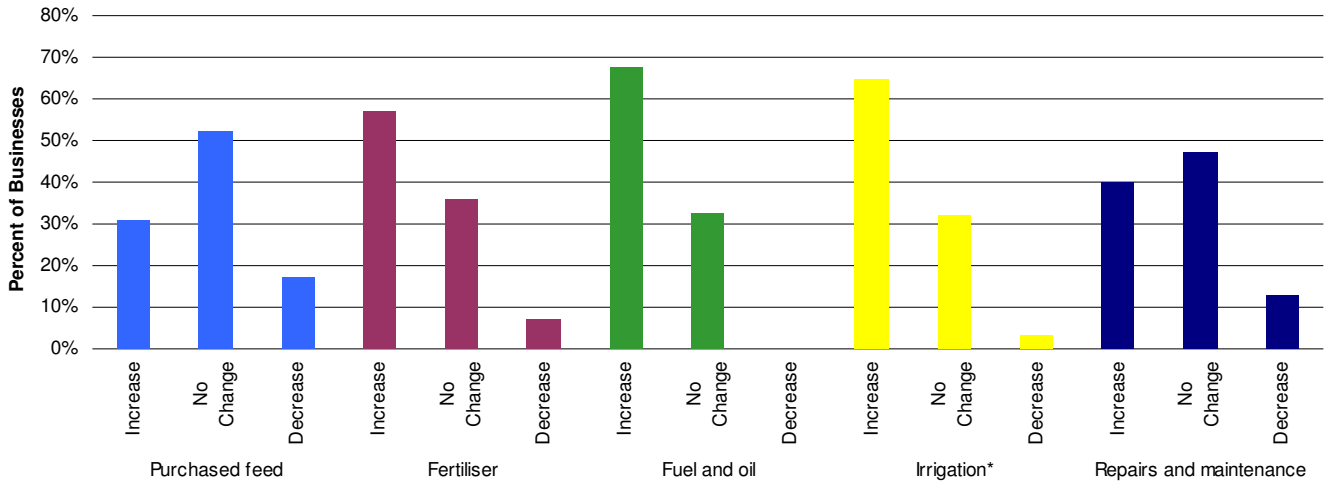


Cost expectations

Data presented in Figure 50 represents the expectations of costs for the dairy industry from 72 of the farms in the project, excluding the costs of irrigation which was answered by 31 farms that have significant irrigation.

There is some uncertainty surrounding costs in the dairy industry and the responses are variable. However it is clear the minority of responses expect costs to decrease suggesting that costs are expected to remain unchanged or increase. Generally people expect fertiliser, fuel and oil and irrigation to increase in cost. Conversely the majority of responses expect purchased feed and repairs and maintenance to remain stable.

FIGURE 50: PRODUCER EXPECTATIONS OF COSTS FOR THE DAIRY INDUSTRY IN 2011/12



**only includes 31 farms with irrigation*

Owner / operator time on farm and holidays

The average number of hours worked by owner/operators was 59 hours per working week and the average number of holiday days taken last year was 15 days (Table 10).

Twenty two of the 74 participating farms identified they had less than ten days of holiday during 2010/11, with ten 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	59	58	63	57
Days of holiday taken in 2010/11	15	11	18	17

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 51. A total of 127 responses were recorded from 73 farms. One farm did not participate and those farms that did had at least one response.

Milk price (19% of responses), water and climate (17%) and input costs (17%) were the key issues facing dairy farmers over the next 12 months. Following these was labour (9%) and profitability (8%). The focus of profitability over the coming year was noticeably lower this year compared to last year at 13% attributable to the turnaround in overall farm profitability recorded this year. Locusts (6%) were also a concern in all regions and wet winters (6%) registered as an issue this year with all but one response from Gippsland participants.

Major issues in the dairy industry- The next 5 years

The key issues identified by individual participants for their business over the next five years are identified in Figure 52. A total of 125 responses were recorded from 71 farms.

Over the longer term milk price (18%) and input costs (18%) are also identified as the key issues in the dairy industry as those issues identified over the next 12 months. However government policy (15%) and succession planning (14%) were more common concerns for farmers over the next five years. These farmers noted government policies such as the carbon tax and the Murray Darling Basin Plan to be major future issues. Profitability (10%) and water and climate (10%) were also longer term issues in the dairy industry.

FIGURE 51: MAJOR ISSUES FOR INDIVIDUAL BUSINESSES – 12 MONTH OUTLOOK

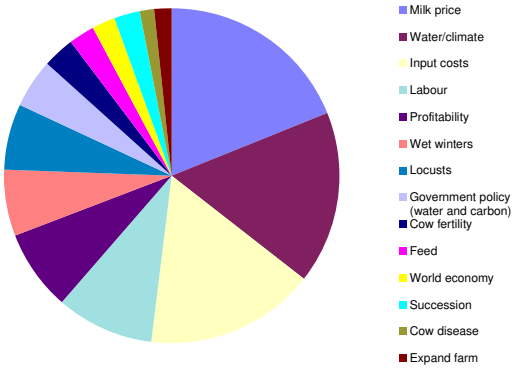
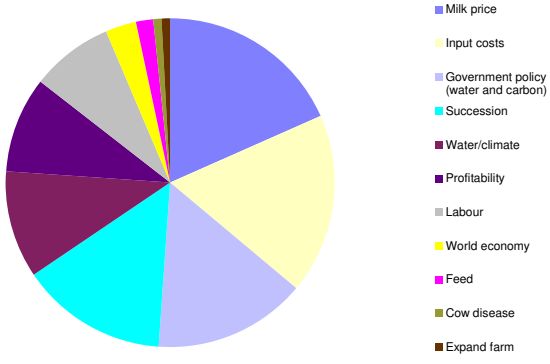


FIGURE 52: MAJOR ISSUES FOR INDIVIDUAL BUSINESSES – 5 YEAR OUTLOOK



Part Six: Greenhouse

2010/11 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 magnitude and source of greenhouse gasses emitted from a dairy farm. The initial analysis template was sourced from Melbourne University's greenhouse in agriculture website (http://www.greenhouse.unimelb.edu.au), which provides decision support frameworks for greenhouse accounting on Australian dairy, sheep, beef and grain farms. While comprehensive, this analysis should not be assumed exact, but used as indicative only.

Carbon dioxide equivalents (CO2-e) are used to standardise the greenhouse potentials from different gases. The Global Warming Potential (GWP) is the index used to convert relevant non-carbon dioxide gases to a carbon dioxide equivalent. This is calculated by multiplying the quantity of the gas by its Global Warming Potential (GWP). All of the data in this section is in CO2- e tonnes.

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

The distribution of different emission for 2010/11 is shown in Figure 52. Greenhouse gas emissions per tonne of milk solids produced ranged from 6.9 t/t MS to 15.6 t/t MS and the average level of emission was 10.9 t/t MS. This is higher than the average from last years greenhouse gas emissions audit of 10.2 t/t MS and the range has also widened compared to 7.2 to 15.4 t/t MS in 2009/10.

Methane (CH4) was identified as the main greenhouse gas emitted from dairy farms, accounting for 73% of all greenhouse emissions. 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 67% of total emissions. Methane from effluent ponds accounted for 6% 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.

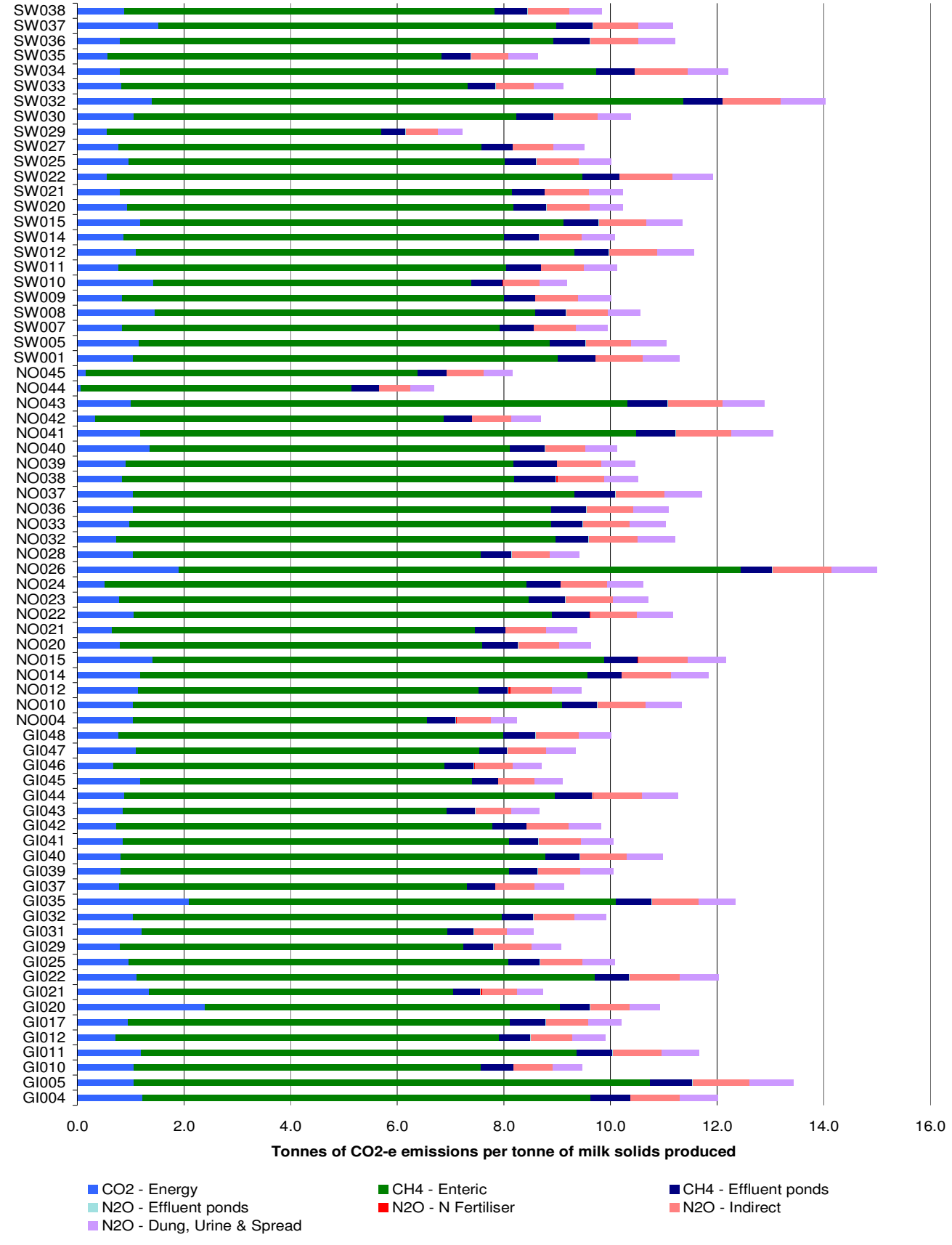
The second main emission is nitrous oxide (N2O) accounting for 18% of total emissions or 2.0 t/t MS, the same as that recorded in 2009/10. Nitrous oxide is emitted in significant levels from four main sources on a dairy farm; effluent ponds, fertiliser, indirect emissions (from ammonia and nitrate loss in soils), and excreta (dung and urine). N2O emissions from indirect N2O emissions were 10% and N2O from effluent ponds accounted for 0.1% of total emissions on farms. N2O from fertiliser accounted for 2.2% of total emissions and 5.8% of emissions were as N2O from excreta. N2O 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 (CO2), which is produced primarily from fossil fuel consumption as either electricity or petrochemicals. CO2 accounted for 9% of total emissions per kilogram of milk solids. Output levels were highly dependent on the source of electricity used with all farms using brown coal generated electricity. Using renewable energy sources however, could cut electricity emissions significantly.

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.climatechange.gov.au.

Methane (CH4) was identified as the main greenhouse gas emitted from dairy farms, accounting for 73% of all greenhouse gas emissions.

FIGURE 53: 2010/11 GREENHOUSE GAS EMISSIONS PER TONNE OF MILK SOLIDS SOLD (CO2 EQUIVALENT)



Part Six: Historical Analysis

Historical Analysis

This new section looks back over the last five years at the profitability performance of participant farms in the Dairy Industry Farm Monitor Project. The historical analysis compares the trends in performance between individual regions. While figures are adjusted for inflation to allow comparison between years it should be noted that the same farms do not participate each year and care needs be taken when comparing the performance across years.

The North

Over the previous four years, farm profitability in the North has been affected by the drought and low water allocations while the milk price step down in 2008/09 also hampered profits. However in 2010/11 favourable seasonal conditions, good water allocations and a higher milk price enabled farms to post much healthier profits.

Figure 54 shows the profit rollercoaster that farms in the North have been on over the past five years. After recording a loss in 2006/07 profits rose sharply on the back of a record milk price before they declined with farmers recording a loss in 2009/10. In real terms 2010/11 has seen farmers record their highest profits since 2007/08. Interestingly interest and lease costs have remained stable over the period shown by the similar distance between the EBIT and net profit lines over five years, however this may have been influenced by the turnover of farms in the sample over the period.

Return on assets was negative in 2006/07 and since then farms in the North have recorded positive returns to assets. 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 earnings before interest and tax. When the percentage increases, it is the result of a higher return from the additional assets than the interest or lease rate. Return on equity increased in 2010/11 to 7.6%, the same result as that recorded in 2007/08

The five year average for return on assets in the North is 3.7% and return on equity is 2.0%.

FIGURE 54: NORTH HISTORICAL FARM PROFITABILITY (REAL $)

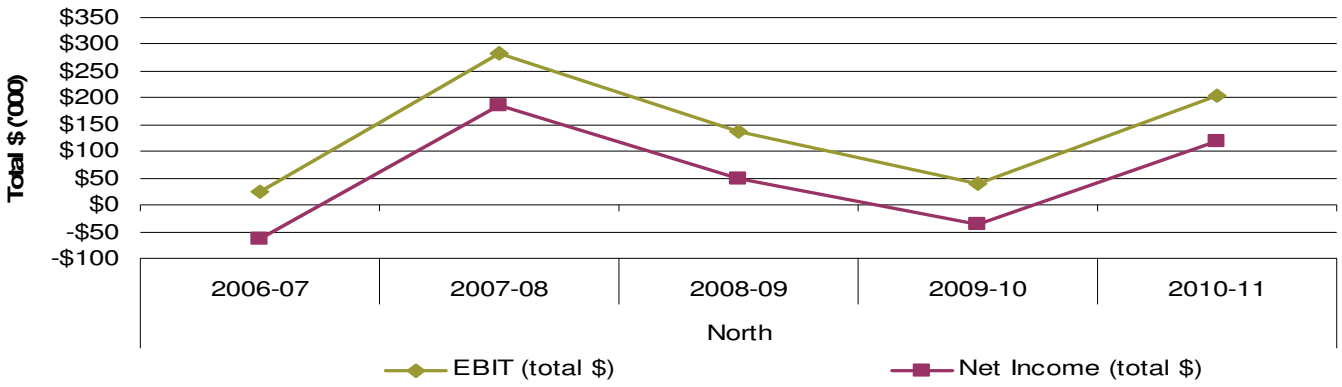
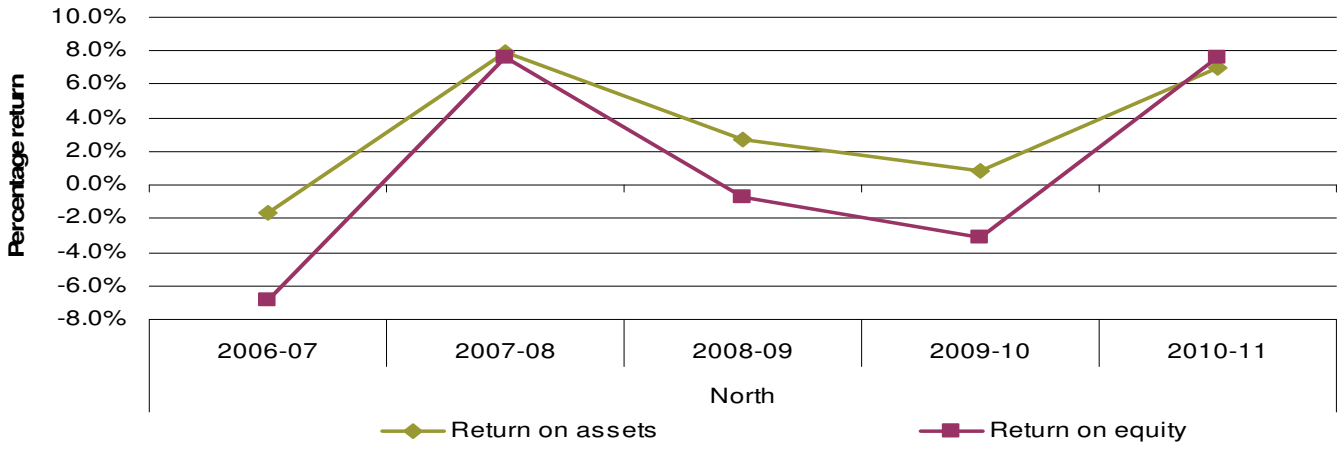


FIGURE 55: NORTH HISTORICAL WHOLE FARM PERFORMANCE



South west

In each of the five years of the project, on average south west farms have recorded positive EBIT, highlighting the strength of this region. Net income on average has also been positive in four out of the five years; however the gap between EBIT and net income has been increasing. Interest and lease costs have progressively increased over the period as shown by the diverging EBIT and net income lines in Figure 56.

In real terms whole farm earnings before interest and tax rose to a level higher than that recorded in 2008/09 however increased interest and lease costs in 2010-11 has meant that net farm income is slightly lower than it was in 2008/09.

The five year average for return on assets in south west Victoria is 5.3% and return on equity is 5.2%.

FIGURE 56: SOUTH WEST HISTORICAL FARM PROFITABILITY (REAL $)

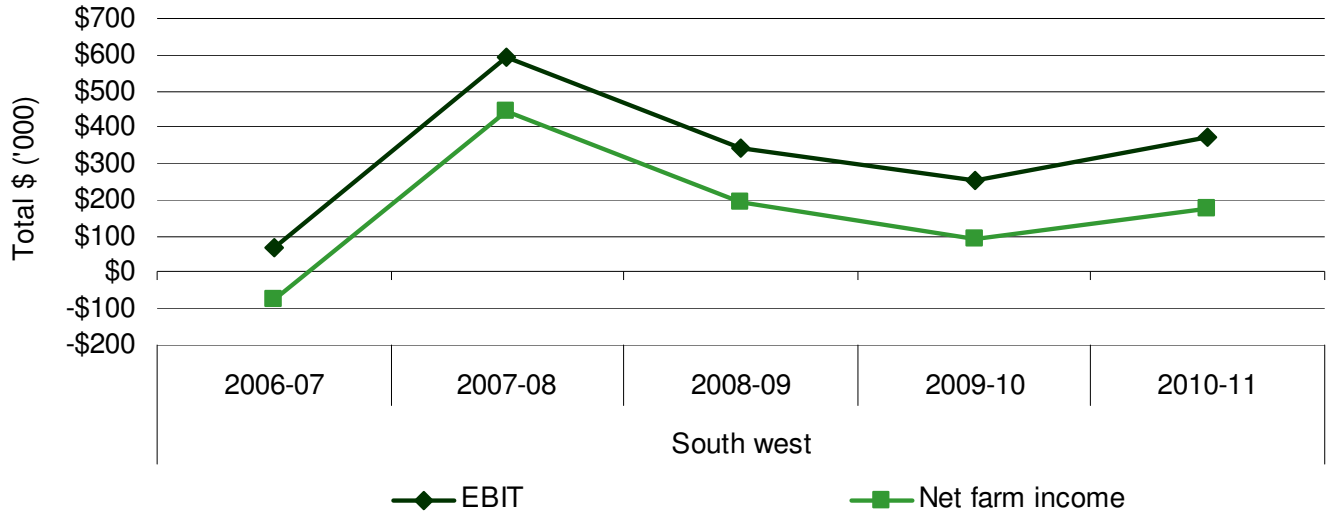
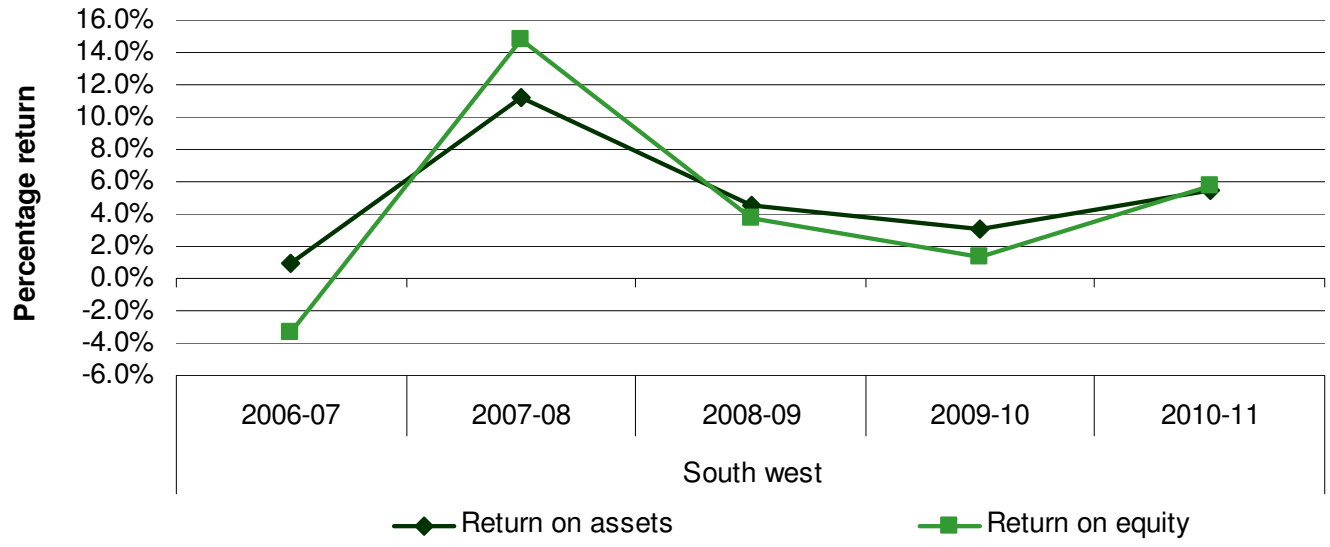


FIGURE 57: SOUTH WEST HISTORICAL WHOLE FARM PERFORMANCE



Gippsland

The improvements in EBIT for Gippsland farms in 2010/11 as discussed in part one and part four is highlighted in Figure 56. It shows that returns in the Gippsland region are the highest since 2007/08. One point to note is that interest and lease costs have been increasing on farms in the Gippsland region over the past five years, except for 2008/09, which can be seen by the dark blue earnings before interest and tax line and light blue net income line getting slightly further apart as they approach the right hand end of the graph.

Figure 57 displays return on asset and return on equity both excluding capital appreciation. The graph highlights the impact of high interest and lease costs, coupled with a low income in 2008/09 and 2009/10 when return on equity fell below returns on asset. In 2010/11 returns to net income increased enabling farms to increase their returns from borrowed capital and grow their equity at a greater rate than that of their total assets.

The five year average for return on assets in Gippsland is 5.1% and return on equity is 6.3% both excluding capital appreciation.

FIGURE 58: GIPPSLAND HISTORICAL FARM PROFITABILITY (REAL $)

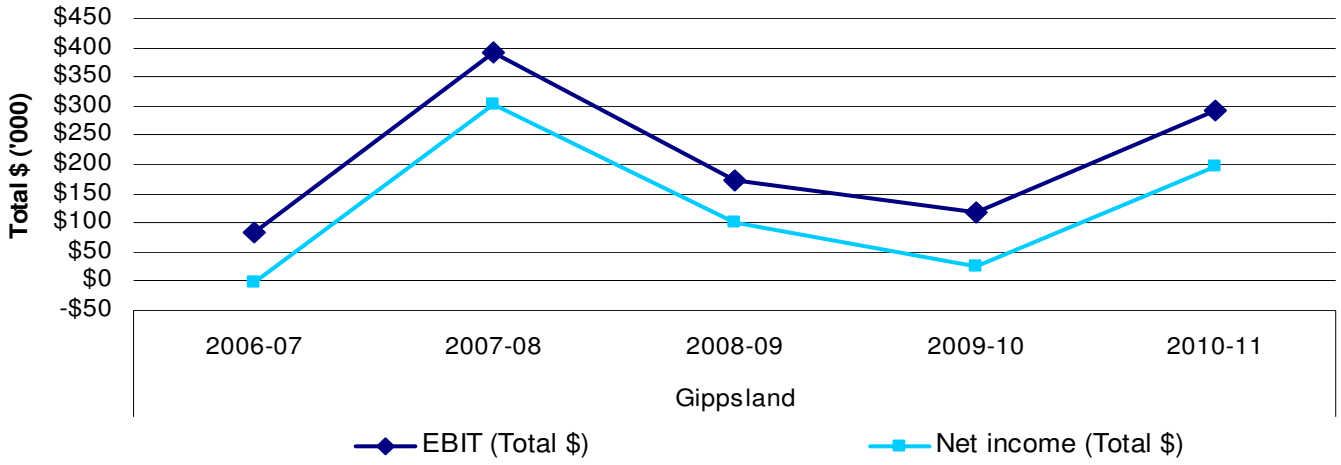
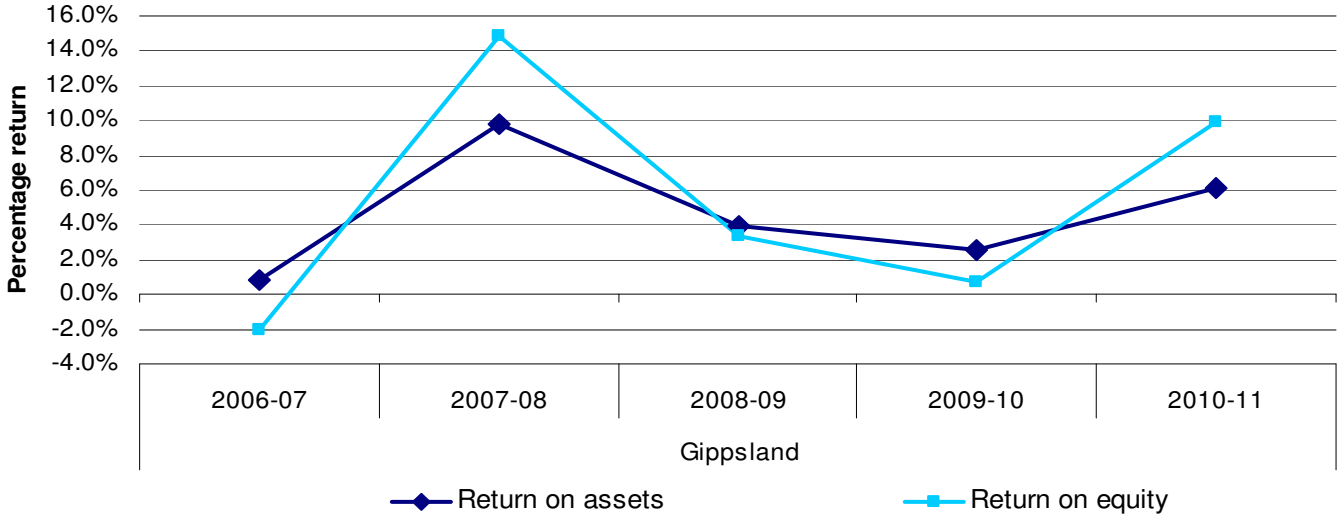


FIGURE 59: GIPPSLAND HISTORICAL WHOLE FARM PERFORMANCE



Appendix E: Glossary Of Terms

All other income

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

Annual hours

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

Appreciation

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

Asset

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

Break-even price required

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

Cash overheads

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

Cost of production

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

Cost structure

Cost of production as a percentage of gross income.

Debt servicing ratio

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

Depreciation

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

Earnings before interest and tax (EBIT)

Previously reported as operating profit

Gross income minus total variable costs, total overhead costs.

EBIT %

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

Employed people 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 useable area minus any area used only for fodder production during the year.

Grazed pasture

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

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

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

Gross farm income

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

Gross margin

Gross income minus total variable costs.

Herd costs

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

Imputed

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

Imputed people cost

Previously imputed labour

Allocation for cost of owner/ family/ sharefarmer time in the business, taken as the greater of $400 per cow less paid people or $20 per hour.

Liability

Money owed to someone else, eg family or an institute such as a bank.

Metabolisable energy

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

Milk income

Income through the sales of milk.

Net farm income

Previously reported as business profit

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

Number of milkers

Total number of cows milked for at least three months.

Other income

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

Overhead costs

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

People cost

Previously reported as labour cost. Cost of the people resource on farm. Includes both imputed and employed people cost.

People productivity

Previously reported as labour efficiency

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

People resource

Previously reported as labour

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

Return on assets (ROA)

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

Return on equity (ROE)

Net farm income divided by the value of total equity.

Shed costs

Cost of shed power and dairy supplies such as filter socks, rubber ware, vacuum pump oil etc.

Total income

See gross farm income.

Total usable area

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

Total water used

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

Variable costs

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

List of abbreviations

AI	Artificial insemination.
BPR	Break-even price required.
CH_4	Methane gas.
CO_2	Carbon dioxide gas.
CO_2-e	Carbon dioxide equivalents.
CoP	Cost of production.
DM	Dry matter of feed stuffs.
DPI	Department of Primary Industries Victoria.
EBIT	Earnings before interest and tax.
FTE	Full time equivalent.
GWP	Global Warming Potential.
ha	Hectares.
hd	Head of cattle.
kg	Kilograms.
ME	Metabolisable energy (MJ/kg).
MJ	Megajoules of energy.
mm	Millimetres. 1 mm is equivalent to 4 points or 1/25th of an inch of rainfall.
MS	Milk solids (proteins and fats).
N_2O	Nitrous oxide gas.
Q1	First quartile, i.e. the value of which one quarter, or 25%, of data in that range is *less* than.
Q3	Third quartile, i.e. the value of which one quarter, or 25%, of data in that range is *greater* than.
t	Tonne = 1,000 kilograms.