Queensland **the Smart State**

Your dairy business

Knowing, understanding and improving your enterprise

QDAS Financial and production trends - 2003

Queensland Government
Department of Primary Industries and Fisheries

Information Series QI04024

Your dairy business

Knowing, understanding and improving your enterprise

QDAS Financial and production trends – 2003

Compiled by:
Graeme Busby
Geoff Hetherington
Ross Itzstein
Geoff Johnston

QI04024
ISSN 07345 02672

The Department of Primary Industries and Fisheries seeks a better quality of life for all Queenslanders – a quality of life supported by innovative world-class food and fibre industries, by responsible and ecologically sustainable use of natural resources and by capable and self-reliant rural communities.

Our business is about:

- innovative science and commercial uptake of new technology by food and fibre industries,
- sustainable use of natural resources,
- food safety and protection against imported pests and diseases,
- market-driven and ethical food and fibre production, and
- capable rural communities achieving prosperity and self-reliance through successful rural businesses.

This publication is designed to provide QDAS participants with a summary of physical and financial data that will give dairy farming families/enterprises information that will enable them to make more informed business decisions.

Address enquires to:

Graeme Busby
Department of Primary Industries and Fisheries
203 Tor Street
PO Box 102
TOOWOOMBA QLD 4350
Australia
Phone +61 7 4688 1254
Fax +61 7 4688 1477
Email: graeme.busby@dpi.qld.gov.au

Design and layout:

Geoff Johnston
Department of Primary Industries and Fisheries
Mutdapilly Research Station
MS 825
PEAK CROSSING QLD 4306
Phone +61 7 5464 8715
Fax +61 7 5467 2124
Email: geoff.johnston@dpi.qld.gov.au

Table of Contents

Tables

Figures

Preface

This report is based on physical and financial data supplied by 184 co-operators to the ***Queensland Dairy Accounting Scheme*** (QDAS) in Queensland and Northern New South Wales. This is the second report where detailed information from Northern New South Wales is included.

Participation in the scheme is voluntary and therefore some results and trends may not necessarily be representative of all farms in the target area. To balance this possibility, data from 83 farms with 4 years continuous supply of cost data has been included.

Most of the collection area experienced severe drought over the last 18 months, the effects are reflected in figures in this report.

The objectives of this book are to:

- Provide QDAS participants with a summary of physical and financial data from South-East Queensland (SEQ), Central Queensland (CQ), North Queensland (NQ) and Northern New South Wales (NNSW) that will give dairy farming families/enterprises information that will enable them to make more informed business decisions,
- Act as a resource guide for local advisers, consultants and other industry service personnel who wish to encourage positive change, and
- Provide background material for industry participants negotiating with banks, government, suppliers or other agents.

The authors wish to thank all cooperating farmers who supplied data and provided valuable feedback in discussion groups and Milk Business seminars held during late 2003 and early 2004.

The QDAS group also acknowledges the support and effort provided by the field staff from the major Dairy Processors in the target regions.

The team would also like to specifically acknowledge the support of National Foods Limited for funding the printing of this publication.

G J Busby

Project Leader

Queensland Dairy Accounting Scheme
Department of Primary Industries and Fisheries
January 2004

1. Introduction

This annual publication presents production and financial data from South-East, Central, North Queensland and Northern New South Wales dairy farms.

Each of these four dairying regions have unique production systems and supply management arrangements so **caution** must be exercised when making any comparisons between regions. While the payment and production systems are unique to the areas many of the results expressed as Key Performance Indicators (KPI's) are similar.

Approximately 14% of Queensland's dairy producers submitted data for analysis, while in Northern NSW approximately 18% of Norco Cooperative Suppliers cooperated in the scheme.

The first four sections in the book present benchmarking and basic farm statistics while the remaining sections present more detailed financial analysis, examine trends and highlight practices designed to improve both cashflow and profit. Data shown in the tables in Section 5 is compiled from farms that have had four continuous years in QDAS. This gives a more accurate reflection of changes in the Queensland industry since deregulation. The cost of production is calculated on both a cash and a profit basis. The costings are presented in Section 7.

Two additional Key Performance Indicators (KPI's) have been included this year. Where appropriate, industry benchmarks have remained the same for 2002 and 2003. Where required, regional benchmarks are given to accommodate the various production and payment systems.

QDAS co-operators receive computer generated diagnostics (***Gap Analysis***). Farmers who have data generated from other sources can use the diagnostic tool shown below to access their farm performance. All producers with data are encouraged to compare themselves with the regional or state benchmark, and/or their farm target. Knowing where your business lies in relation to targets allows you to identify strengths and weaknesses of your business. This is a vital first step in understanding the business prior to considering or developing a change plan.

Performance Diagnostic

My Result	QDAS Av.	Benchmark	My Target	% Variance from Benchmark/ My Target
				**

** To calculate variance: [(My result – Benchmark) / Benchmark]*100

2. Summary of results 2002 -2003

The following are highlights from the discussion and tables included in this report:

- 184 farms from Queensland and Northern New South Wales provided data for analysis,
- 83 farms from Queensland have had continuous participation in QDAS for a minimum of 4 years, the trends in herd size, production and financial statistics from these farms are presented in a series of separate tables,
- 16 Key Performance Indicators are presented under the four business traits – liquidity, solvency, profitability and efficiency,
- The cash cost of production on average was 38.7 c/L, while the top one third of farms were able to produce milk for a cash cost of 34.5 c/L,
- Additional debt repayment capacity is a new indicator added this year. The average result was -$7480, this implies that other farm income, government payments and/or overdraft was used to meet the shortfall in cash,
- Equity remains strong at 83% even though many farmers increased overdraft due to the drought. Land prices increased in all dairying areas. The average QDAS farm was valued at $1.48 million,
- Average results for the three profitability ratios; return on assets, equity, and operating profit margin were unacceptably low at 1.6%, -0.2% and 6.3% respectively,
- The number of farms achieving the asset turnover benchmark has increased from 6% to 18% to 24% over the last three years. This is a measure of increasing capital efficiency. Caution must be exercised as this measure does not include any information regarding cost of production,
- With the continuing drought, fewer farmers have achieved the 12 c/L benchmark for feed related costs. The QDAS average was 19.4 c/L. Total variable costs now account for 65-70% of gross milk income,
- Over the last three years 20% of farms have achieved the production per cow benchmark of >6000 litres,
- In NQ farms in the group producing more than 750 000 L per year, increased herd size by 14% to 305 milkers, milk production increased correspondingly,
- Milk production from home grown feed was well below potential, Table 7 shows the yields in each region,
- Strategic nitrogen applications in high rainfall areas and on irrigation farms resulted in high gross margins per cow and per farm. The high usage group averaged 152 kg nitrogen per cow per year,
- Farms with the highest stocking rates produced the most milk per hectare, on dryland farms – 12 261 litres, on irrigation farms – 18 654 litres and the highest Gross Margins, and
- The production group averaging 1.5 millions litres had the highest return on assets at 3.5%, while the group averaging in excess of 2 million litres achieved an asset turnover of 38 cents for each dollar invested.

3. KPI's & benchmarks for 2002-2003

Sixteen KPI's are used in this year's report to monitor farm performance. Table 1 shows these indicators grouped under the four key Business trait headings:

- Liquidity,
- Solvency,
- Profitability, and
- Efficiency traits.

Why use KPI's

Put simply, KPI's are calculations used for measurement, comparison and evaluation. Their use eliminates many simple dollar value comparisons, which can often be misleading and confusing. They can also be used to identify problems and opportunities.

Table 1. Key performance indicators, 2002-2003

Business trait	Key performance indicator
Liquidity	1. Additional debt repayment capacity - $
	2. Interest per cow - $/cow
Solvency	1. Equity percent - %
	2. Leverage – ratio value
	3. Total liabilities per cow - $
Profitability	1. Return on asset (RoA) - %
	2. Return on equity (RoE) - %
	3. Operating profit margin (OPM) – %
Efficiency	
a) Capital efficiency	1. Asset turnover ratio (ATO) – c/$ invested
b) Financial efficiency	2. Feed related cost (FRC) – c/L
	3. Margin over feed related costs (MOFRC) – $/cow
	4. Total variable cost (TVC) – c/L
	5. Gross margin (GM) - $/cow
c) Physical efficiency	6. Litres of milk from home grown feed (L/HGF) - L
	7. Production per cow (PPC) – L
	8. Litres per labour unit (LLU) - L

3.1 Liquidity KPI's used in QDAS

Generally, liquidity KPI's measure the capacity of the business to meet its short-term debts (cash flow ability), either by using cash or by converting current assets into cash. These ratios:

- Focus on the businesses ability to generate cash,
- Are related to short-term activities of the business.

3.1.1 Additional term debt repayment capacity (ADC)

ADC indicates how much cash a business has available after meeting all existing commitments. It measures the ability of the business to contribute to additional debt servicing. A negative number indicates that current debts may not be able to be serviced from dairy

income alone. The cash shortfall can be balanced by the use of, off-farm income, interest subsidies, transfers from other accounts and/or the use of overdraft facilities. A positive number indicates that some cash is available for additional repayments and as a buffer against a rise in interest payments.

Calculation

(Milk income + cattle sales + other dairy related income) – (variable costs + fixed expenses + paid labour costs + drawings + leases, principal and interest payments).

3.1.2 Interest per cow

The total amount of dollars being paid in interest per cow is used to highlight one risk aspect for the business. Generally farms in a rapid development phase will have a higher figure than well established businesses.

Calculation

Total interest payments / No of cows.

3.2 Solvency KPI's used in QDAS

Solvency ratios indicate how the business is financed, eg by owners equity or by external debt. Lenders of long-term funds and equity investors have an interest in solvency ratios. They can highlight:

- Possible problems for the business in meeting its long-term obligations,
- Show how much of the business's capital is provided by lenders versus owners,
- The asset liability statement will indicate to the lenders the potential risks in the recovery of their money, and
- The potential amount of long-term funds that a business can borrow.

This KPI is often referred to as the 'sleep at night' factor – how comfortable do you feel with the current debt level?

3.2.1 Equity%

Lenders see an increased risk associated with borrowing as this percentage figure falls below a predetermined or agreed figure. To assess the risk potential it is important to look at both the dollar figure and the business cashflow.

Calculation

((Assets – liabilities) / assets) * 100.

3.2.2 Leverage

Leverage is another term used to define the capital structure or the relationship between equity and debt financing. Leverage refers to the amount of debt capital used to fund the total asset base. The higher the value the greater the reliance on debt financing.

Calculation

Debt / equity.

3.2.3 Total liabilities (debt) per cow

A high value could indicate potential difficulties with both liquidity and solvency.

Calculation

Liabilities / total number of cows.

3.3 Profitability KPI's used in QDAS

Profitability ratios measure the ability of the business manager to generate a satisfactory profit. These ratios are typically a good indicator of management's overall effectiveness in producing milk from the land and stock available.

3.3.1 Return on Asset (RoA)

The KPI, RoA measures the profit-generating capacity of the total assets of the business. It measures the farm's effectiveness in using the available total capital, both debt and equity.

Calculation

(Dairy operating profit / Total assets) * 100.

3.3.2 Return on equity (RoE)

This KPI measures the return on the owner's investment in the business. Interest costs are deducted from the operating profit to make the calculation. It takes the investor's point of view and can be a good way to encourage further investment in a business, it also allows a comparison to be made with the returns available from external investments.

Calculation

(Dairy net profit (pre tax) / equity) * 100.

3.3.3 Operating profit margin

This calculation highlights the amount of profit retained after all expenses are paid except debt servicing and taxation payments. It is a measure of the effectiveness of operations to generate and retain profits from revenues. Depreciation and a management allowance are included as expenses in this profit KPI.

Calculation

(Dairy operating profit / total dairy income) * 100.

3.4 Efficiency KPI's used in QDAS

When examining a business these KPI's are often the starting point in an analysis, however it is recommended that the emphasis should be on the first three business traits. Efficiency ratios show how well business resources are being used to achieve other KPI's.

3.4.1 Asset turnover ratio (ATO)

This measures the amount of revenue generated per dollar of assets invested. It is a measure of the managers effectiveness to generate revenues (capital efficiency). The calculation does not include any costs.

Calculation

Total dairy income / assets.

3.4.2 Feed related cost (FRC)

FRC is a variable cash cost and includes purchased as well as all home grown feed input costs.

Calculation

Total of all feed related costs / total production.

3.4.3 Margin over feed related costs (MOFRC)

Only the gross milk income is used in this calculation, this avoids the fluctuations that occur in annual cattle sales.

Calculation

(Gross milk income – FRC) / Number of milkers.

3.4.4 Total variable cost (TVC)

In QDAS total variable costs are compiled under three headings – FRC, herd, shed and other variable costs.

Calculation

TVC / Total production.

3.4.5 Milk gross margin (GM)

This highlights the milk production efficiency; the resulting dollars are available to pay fixed, financial, living and future development costs. It is should not be confused with the profit KPI's.

Calculation

(Milk income – TVC) / Number of milkers.

3.4.6 Litres of milk from home grown feed

Home grown forage (HGF) includes grazed pasture, home produced hay and silage. QDAS uses milk conversion factors to calculate the milk from all feed sources including concentrates.

Calculation

The milk from HGF is expressed as litres per cow per day.

3.4.7 Production per cow

In QDAS the milking cow numbers used in all calculations includes milkers plus dry cows. This implies each cow has a calf annually.

Calculation

Total milk production / No of cows.

3.4.8 Litres per labour unit

The inference is made that as margins have reduced, technology should be used to gain efficiency. The number of cows milked per labour unit will impact on profitability.

Calculation

Total litres of milk / No of labour units (paid + unpaid).

3.5 General comments

Many of these 16 KPI's are representative of KPI's that are used in most business reporting. A great number of additional KPI's can be calculated from the vast amount of data collated in QDAS if and when required.

Throughout the publication, benchmarks for selected KPI's will be shown. In some cases a single nominated figure is used, in others a separate benchmark for each dairy region is given. The benchmark and the number of participants achieving the benchmark are shown for the key indicators in Table 2.

Other measures may be important when examining an individual plan eg. cash surplus per farm family and environmental and other sustainability considerations.

The change in net worth is also an important indicator for every farm owner, and should be noted by each participant each year.

Table 2. Benchmarks and the percentage of farms achieving the benchmark in 2002-2003

Business traits and Indicators	QDAS average	Benchmark	% achieving benchmark		
Liquidity			**2000-01**	**2001-02**	**2002-03**
Additional debt repayment capacity	$-7480	Individual farm calculation	NA	NA	NA
Interest paid/cow	$101	<$200/cow	NA	90%	85%
Solvency					
Equity %	83%	>75%	75%	72%	69%
Leverage	0.22	0.33	NA	NA	69%
Total liabilities per cow	$1437	$1350	NA	NA	54.9%
Profitability					
RoA	1.6%	> 8%	4%	7%	9%
RoE	-0.2%	> 8%	2.5%	6%	9%
OPM	6.3%	25%	NA	NA	11%
Efficiency					
- Capital					
ATO	25 c/$	30 c/$	6%	18%	24%
- Financial					
FRC	19.4 c/L	12 c/L	47%	19%	7%
MOFRC	$818	SEQ,CQ,NNSW - $1200/cow	16%	12%	10%
	$848	NQ - $1000/cow	22%	22%	27%
TVC	24.4 c/L	19 c/L	51%	32%	14%
GM	$551	SEQ,CQ,NNSW $800/cow	18%	37%	22%
	$579	NQ $600/cow	22%	20%	45%
- Physical					
Litres of milk from HGF	9.8 L	15 L	12%	10%	9%
Production per cow	5269 L	>6000 L	19%	20%	21%
Litres per labour unit	260 755 L	On farms <750 000 L Target 400 000 LLU	10%	10%	16%
	450 464 L	On farms >750 000 L Target 500 000 LLU	18%	27%	34%

4. Physical resources used on QDAS dairy farms

4.1 Trends in herd size and stocking rates

Statistics on herd structure and stocking rates from farms in the four QDAS regions for the last two years are shown in Table 3. The farms are grouped by their annual production – less than or more than 750 000 litres. These tables can be used to build a farm profile.

Points to note:

- In SEQ and NQ, a significant number of farms expanded their milking herds from 2001 to 2002. This trend continued on the larger producing NQ herds in 2002-2003. In NQ, the farms producing more than 750 000 litres annually have increased cow numbers by 14% to 305 milkers and annual production increased by 15 percent,
- Stocking rates are conservative in all but the high producing groups with high producing farms in NQ averaging 3.39 cows per milking hectare,
- Owners of farms in the lower production group need to seriously consider their long-term future if production remains static. Annual inflation and the prediction that milk returns will remain flat in the short to medium term will slowly erode cash surpluses,
- Despite the drought heifer numbers remain relatively static, and
- NNSW data indicates that farms in that region have similar statistics to that obtained in SEQ.

Table 3. Herd size & stocking rates for all QDAS regions, 2002 & 2003

South-east Queensland

Farm production	<750 000 L		>750 000 L	
Year	**2001-02**	**2002-03**	**2001-02**	**2002-03**
Mean production (L)	525 927	517 115	1 270 643	1 329 336
Milkers+dry cows	114	115	222	224
Heifers >15 months	31	26	31	48
Heifers <15 months	41	42	54	79
Milking cow area - ha	89	91	109	126
Effective dairy area - ha	172	163	192	210
Cows/1 ha milking area	0.88	1.26	1.51	1.78

Central Queensland

Farm production	<750 000 L		>750 000 L	
Year	**2001-02**	**2002-03**	**2001-02**	**2002-03**
Mean production (L)	514 373	554 098	1 027 362	1 023 247
Milkers+dry cows	120	113	198	210
Heifers >15 months	21	41	36	72
Heifers <15 months	28	39	75	83
Milking cow area – ha	163	86	76	60
Effective dairy area - ha	176	170	216	258
Cows/1 ha milking area	1.12	1.31	2.61	3.5

North Queensland

Farm production	<750 000 L		>750 000 L	
Year	**2001-02**	**2002-03**	**2001-02**	**2002-03**
Mean production (L)	518 770	467 677	1 442 420	1 663 593
Milkers+dry cows	117	126	268	305
Heifers >15 months	32	32	51	50
Heifers <15 months	41	35	62	90
Milking cow area – ha	84	59	109	137
Effective dairy area – ha	158	99	198	236
Cows/1 ha milking area	1.39	2.13	2.45	3.39

Northern NSW

Farm production	<750 000 L		>750 000 L	
Year	**2001-02**	**2002-03**	**2001-02**	**2002-03**
Mean production (L)	498 725	491 021	1 122 275	1 234 383
Milkers+dry cows	119	107	204	226
Heifers >15 months	39	38	60	62
Heifers <15 months	41	32	64	67
Milking cow area – ha	59	78	83	98
Effective dairy area – ha	118	130	151	179
Cows/1 ha milking area	2.0	1.37	2.46	2.31

4.2 Labour resources

The number of labour units contributing to the milk production was recorded under two headings in 2003:

- Unpaid permanent labour – the farm owners, and
- Paid labour – casual and permanent.

When looking for an acceptable analytical approach to the calculation of the number of labour units employed and how to value their contribution to milk production, a number of issues require clarification. Some include:

- Should the value of unpaid (owners) labour be imputed on an hourly basis, and if so what is an appropriate rate?
- Should there be maximum and minimum values applied?
- What constitutes dairy farm duties, eg how to treat time spent at industry meetings and cattle sales?
- How to evaluate effective and ineffective work practices?
- How to record and treat contactors, eg off farm heifer rearing, silage harvesting?
- Should imputed rates reward both labour and management skills, and
- How to treat high productivity at the expense of lifestyle and perhaps profits?

Paid labour costs include superannuation contributions, taxation and workers compensation payments.

Actual family living costs are shown in a cash analysis. The format to calculate the imputed labour/management allowance for the profit analyses is shown in Table 4. Average regional labour information is summarised in Table 5.

Table 4. Imputed labour / management allowance calculation used in 2002-2003

Farm production	Management allowance
Where production is less than 300 000 L	$20 000
Where production is between 300 000 & 900 000 L	6 c/L
Where production exceeds 900 000 L	$54 000

Table 5. Regional labour statistics, 2002-2003

Region	No of units Paid + unpaid	Cost Paid + imputed	Average Litres produced per labour unit
SEQ	0.7 + 1.7	$24 584 +$54 000 = $78 584	378 292 L
CQ	1.0 + 1.7	$29 643 + $45 768 = $75 411	293 385 L
NQ	0.8 + 1.7	$27 063 + $ 54 000 + $81 063	491 485 L
NNSW	0.8 + 1.4	$28 325 + $54 000 = $82 325	446 044 L

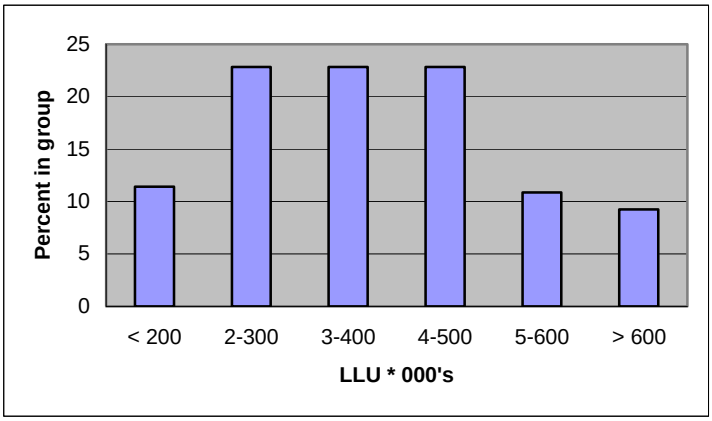
Being able to make the best use of labour is essential - it's a matter of trying to work smarter, combined with knowing the value of each labour unit and equating any capital expenditure against potential labour savings. The question - how best should labour be utilised, is one of the areas which needs constant attention as production increases.

The following points are areas to consider when addressing labour issues:

- The number of employees,
- Milk per labour unit,
- Cows per labour unit,
- Award rates and conditions,
- Job skills and training programs,
- Shed design and farm layout,
- Unpaid family labour, and
- Other labour saving technology.

Figure 1 shows that only 15 percent of farms in the QDAS area exceed 500 000 litres per labour unit.

Figure 1. Histogram of litres per labour unit obtained on QDAS farms in 2002-2003.



5. Real trends in farm financial performance

While a core of farms contribute data each year there are co-operating farms which cease dairying and also farms which provide data spasmodically. To highlight the real trends since deregulation 83 farms with consistent data entry over four years were examined. The 1999-2000 year is the final year where farmers received a regulated market milk return. The statistics are shown in Tables 6.

- There has been a continued increase in the average size of the milking herd, especially in SEQ and NQ, with NQ herds averaging over 200 cows,
- Despite the analyses of QDAS data showing an increase in margins as farms increase production per cow, farmers have not generally adopted technology to achieve this potential increase. The production level per cow has decreased by 459 litres in the CQ region in the past 4 years, while in NQ the reduction was 949 litres. The drought in NQ may have contributed to 400-500 litres of this reduction,
- Milk returns fluctuated over the four years. In the first year of deregulation (2001), in SEQ milk returns dropped 7.1 cents, 5.9 cents in NQ and 7.4 cents per litre in CQ but improved in following years,
- The drought had an impact on FRC in both 2002 and 2003, with feed costs rising 4-7 cents per litre when compared to 2000,
- Variable costs now account for 65 – 70 percent of gross milk income.
- The fluctuating milk returns and higher costs have impacted on the gross margin per cow. A healthy gross margin is essential if you are to achieve a high return on assets,
- Asset turnover is low in all groups. The three groups average approximately 25 cents of revenue for each dollar invested, land prices remain strong in all areas,
- Dairy farmers have been able to maintain a strong equity position, and
- Operating profit margin remains well below the benchmark of 25% and has been adversely affected by drought conditions in the last year.

Table 6. Trends in financial KPI's over the four years 2000 to 2003 - SEQ, CQ & NQ

South east Queensland (continuous 4 year participation)

	1999-2000	2000-2001	2001-2002	2002-2003
Total milk income (c/L)	39.9	31.0	32.9	34.8
Farm gate return (c/L)	36.4	29.3	32.0	34.1
Average herd size	149	156	169	179
PPC (L)	5528	5419	5421	5570
FRC* (c/L)	12.2	13.0	16.5	19.7
TVC (c/L)	20.0	19.0	21.6	24.4
Gross margin (c/L)	19.9	12.0	11.3	10.4
Equity* (%)	86	90	90	80
RoA (%)	5.4	1.1	1.8	1.3
ATO (c/$)	27	21	25	21
OPM (%)	20.0	5.0	7.0	5.0

* There has been a minor change in the way FRC has been calculated over the years.

North Queensland (continuous 4 year participation)

	1999-2000	2000-2001	2001-2002	2002-2003
Total milk income (c/L)	36.0	28.2	31.3	32.7
Farm gate return (c/L)	33.5	27.6	30.7	32.0
Average herd size	154	170	191	213
PPC (L)	5741	5234	5294	4792
FRC* (c/L)	12.9	12.4	14.6	16.4
TVC (c/L)	20.6	17.9	20.3	22.2
Gross margin (c/L)	15.4	10.4	11.0	10.4
Equity* (%)	82	80	82	82
RoA (%)	7.2	-1.2	3.1	1.2
ATO (c/$)	36	20	28	25
OPM (%)	15.0	-5.0	11.0	5.0

***** There has been a minor change in the way FRC has been calculated over the years.

Central Queensland (continuous 4 year participation)

	1999-2000	2000-2001	2001-2003	2002-2003
Total milk income (c/L)	44.4	35.2	37.8	40.9
Farm gate return (c/L)	40.3	32.9	35.4	38.5
Average herd size	142	142	149	159
PPC (L)	5201	5045	4852	4742
FRC* (c/L)	12.9	14.0	19.0	22.1
TVC (c/L)	21.6	19.6	23.3	26.3
Gross margin (c/L)	22.8	15.6	14.5	14.7
Equity* (%)	81	81	80	79
RoA (%)	7.3	3.1	2.4	2.5
ATO (c/$)	33	26	28	28
OPM (%)	23	12	9	9

* There has been a minor change in the way FRC has been calculated over the years.

6. Understanding production & financial relationships

6.1 Variability in gross margins and per cow production

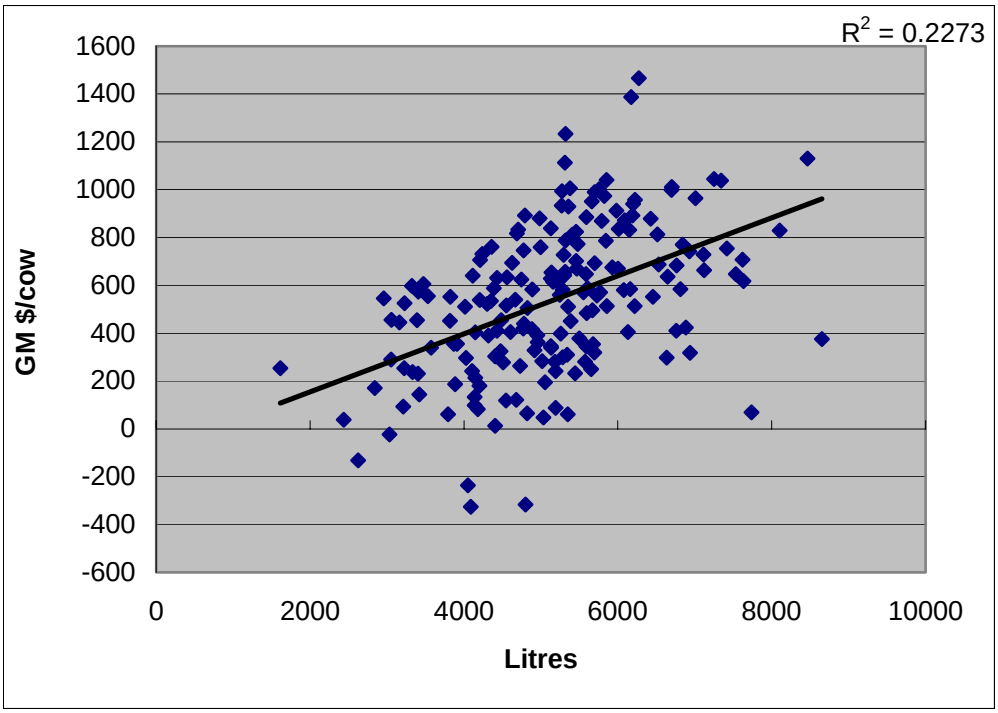
Figure 2 shows the variability in both production and the gross margin obtained per cow this year. It shows a range in production per cow from 1616 to 8651 litres while gross margin ranges from -$326 to $1466. To be more specific if we just focus in the area of 5800 to 6000 litres per cow, the range in gross margin per cow is $527, or from $513 to $1040 per cow.

This variation indicates that there is tremendous room for improvement on many farms. Each QDAS farm is represented by a dot in the figure. By identifying your position on the figure you could estimate how your production and gross margin compares with – all other farms and more importantly with farms producing at your level. The next step is to compare your farm with farms in your discussion group that have a similar asset base and production system.

The benchmarks in QDAS are:

- For production per cow – greater than 6000 litres,
- For gross margin per cow in North Queensland $600, and $800 for all other areas.

Figure 2. Variability in gross margin and production per cow, 2002-2003



The variability in Gross Margin can be explained by:

- The production achieved from home grown feed sources,
- Fertiliser use,
- Stocking rates,
- Differences in production per cow,
- The size of the farming operation, and
- The quality and use of farm assets.

6.2 Milk production from home grown feed

Past reports and research has shown that optimising utilisation of home grown feed can control feed related costs and improve gross margins. Farms with high paddock feed utilisation have also maintained reasonable individual cow production yields.

In 2002-2003, the average Total Variable Cost was 25 c/L. For farms with a TVC of less than 25 c/L the production from Home Grown Feeds was 11.7 L/cow while the group with a TVC greater than 25 c/L was 7.8 L/cow. Other regional statistics are shown in the Table 7 below.

Table 7. Litres per cow from Home grown Feed

Region	Litres per cow	
	TVC < 25 c/L	TVC >25 c/L
SEQ	11.5	8.1
CQ	8.4	6.8
NQ	10.8	4.6
NNSW	13.6	7.5

This production is well below the potential 13 – 17 litres achieved from forage in research trials.

Table 8. Target yields from forage

Pasture system	Potential yield from pasture	Production target/cow	% required from forage	Daily milk from forage
Tropical	3500 – 4000 L	6500 L	55 – 60%	11.5 - 13.5 L
Temperate	4500 – 5200 L	7500 L	60 – 65%	15.0 – 17.0 L

6.3 Strategic nitrogen fertiliser application

Fertiliser use has been collated on 92 high rainfall or irrigation farms in 2002-2003. To analyse the effect of nitrogen fertiliser use the farms were segregated into three equal sub groups based on nitrogen usage ie high, medium or low.

In the high rainfall group the average nitrogen levels in the three sub groups was 25, 75 and 152 kilograms per milker respectively. The dry conditions reduced fertiliser usage when compared to levels used in the late 1990's. Insufficient data was available to calculate responses in the low rainfall areas.

The effects on farm production and gross margins are shown in Table 9 below, as nitrogen fertiliser use per cow increases we have:

- Higher milk production from home grown feed,
- Higher gross margins per farm, and
- Higher production per cow.

Table 9. Impact of nitrogen fertiliser on production per cow and gross margin, 2002-2003

	High rainfall		
Nitrogen usage	**Low**	**Medium**	**high**
Units of N/cow kg	25	75	152
PPC L	4550	4983	5928
Cows	172	196	216
Prod'n/ farm L	786 088	981 116	1 283 356
GM/farm $	72 593	97 891	142 541
Litres from HGF	341 675	590 564	805 394

6.4 Increasing stocking rate

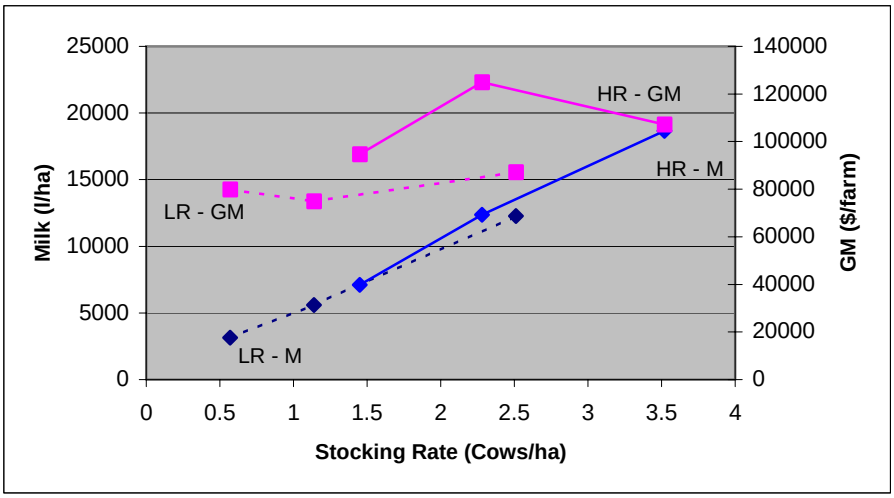
For the last two years (2001 – 2002) QDAS data indicated producing larger volumes of milk per hectare by utilising higher stocking rates on the milking cow areas will improve farm gross margins significantly. This statement remained true whether your farm is in a low or high rainfall area.

Figure 3 shows the data for 2002-2003. The solid lines represent high rainfall areas while the dotted line represents low rainfall areas.

Milk production per hectare increased in line with increasing stocking rates but due to the high cost of concentrates there was an impact on gross margins.

In the high rainfall area, as stocking rate increases from 1.45 to 3.52 cows per hectare the milk produced increases from 7100 litres to 18 654 litres per hectare. In the low rainfall areas, as stocking rate increases from 0.57 to 2.51 cows per hectare the milk produced increases from 3138 litres to 12 261 litres per hectare.

Figure 3. The effect of raising stocking rate per hectare, 2002-2003



6.5 Increasing production per cow – the effect on margins

The detailed costings obtained from farmers has provided information that consistently shows that as you improve a cow's diet, thereby utilising her genetic potential, you increase the margin over feed costs, the gross margin per cow and per farm.

In Table 10, data for 2002-2003 is presented highlighting this point. In QDAS the number of milking cows plus the dry cows are totalled to arrive at the milking herd size. This calculation assumes a twelve-month inter-calving interval. Herds with an inter-calving intervals of 13 or 14 months will find that their herd's average production in QDAS reports is slightly lower than that reported by herd recording schemes. Points to note in this table:

- Milk income in cents per litre does not have a significant impact on the differences in margins between the groups,
- Large herds can achieve high production per cow – the 5-6000 and 6-7000 litre groups had 181 and 216 cows each,
- From 3287 to 6464 litres the margin over feed related costs only varied by 1.1 cents per litre across the groups, with the highest production per cow group having a lower margin per litre but the highest margin per cow at $999,
- The margin over feed costs per cow and in dollars per farm steadily rose as production increased,
- Farm gross margin increased from $52 641 in the lower production group to $146 991 in the group with an average production of 6464 litres.

Table 10. Costs and returns for 5 per cow production groups, 2002-2003

Production group	<4000 L	4-5000 L	5-6000 L	6-7000 L	>7000 L
No of farms	27	53	64	29	13
Litres (L)	542 806	735 122	988 429	1 405 935	1 558 571
Average herd size	165	162	181	216	201
Production/cow (L)	3287	4500	5426	6464	7701
Total milk income (c/L)	35.4	35.5	34.9	35.0	34.0
Margin over FRC (c/L)	16.4	15.4	16.5	15.4	13.0
Margin over FRC/cow ($)	537	697	894	994	999
Gross margin/cow ($)	319	431	596	676	656
Gross margin/farm ($)	52 641	70 368	108 302	146 991	132 712

Aiming for higher production per cow will necessitate the use of concentrates.

At production levels of 6-7000 litres per cow at least 2 tonnes of concentrate per cow will be required. It has been shown that optimising milk production from paddock fed is essential as a first step in achieving a high gross margin for milk produced. The relative proportion of nutrients going to cow maintenance verses milk production for a range of daily production levels is shown below.

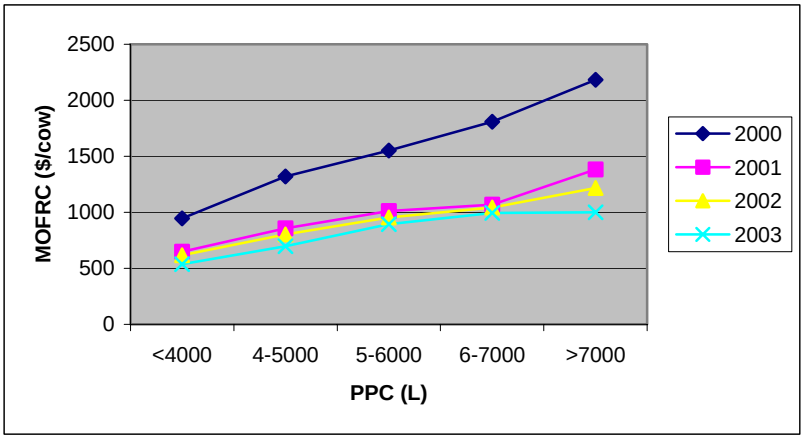
As the daily production increases the proportion of nutrients partitioned for milk increases.

Table 11. Proportion of energy intake partitioned for maintenance and milk production.

Milk yield (litres/day)	% of intake to maintenance	% of intake to production
5	62	38
10	50	50
20	38	62
30	32	68

The following graph shows the consistent increase in margin over feed costs for the last four years. Although the margin over feed costs dropped significantly post deregulation the trend is the same.

Figure 4. Margin over feed costs per cow for the years 2000 - 2003



6.6 Farm productivity and profitability is aligned to size

Table 12, and Figures 5 & 6 shows how large farms compare on a range of important KPI's.

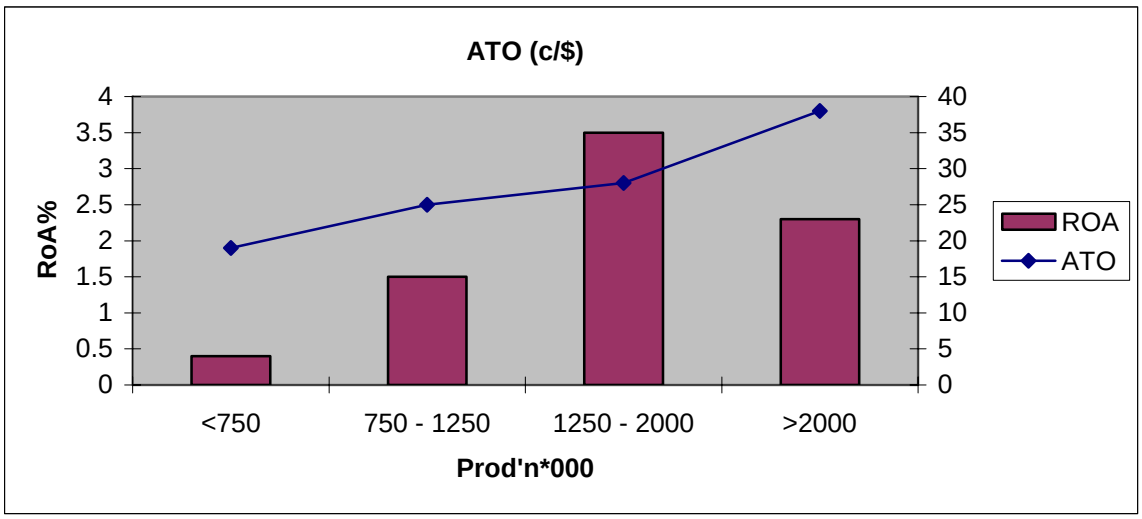
For example:

- Herd size increases as expected but also note that production per cow also increases,
- The margin over feed costs per cow tapers off on the largest farms, but gross margin per farm continued to increase,
- Key profitability ratios – return on assets and operating profit margin were highest on the farms in the group producing 1.5 million litres, but, were unacceptably low for all groups, and
- Capital efficiency improves steadily. On the largest farms each $1 of assets generates 38 cents in income.

Table 12. The influence of level of production on financial ratios, 2002-2003

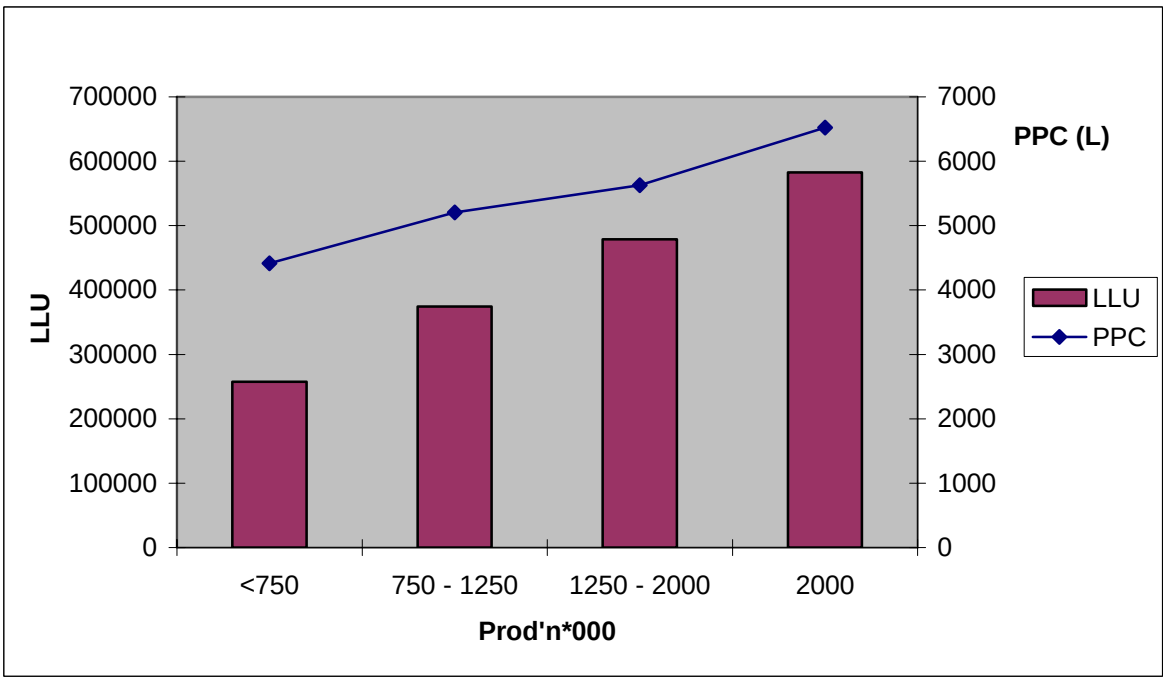
	<750 000 L	750 000 – 1.25m L	1.25 – 2.0m L	>2.0m L
Production (L)	510 161	963 204	1 523 847	2 422 575
Herd Size	114	184	268	370
PPC (L)	4415	5210	5657	6522
Margin over FRC ($)	673	801	953	927
GM/cow ($)	405	521	644	635
GM/farm ($)	46 762	96 248	173 351	235 909
LLU	206 755	379 656	478 337	582 583
RoA (%)	0.1	1.3	3.5	2.3
RoE (%)	-1.5	-0.6	2.1	-1.2
OPM (%)	0.5	5.3	12.5	6.0
Equity (%)	86	79	81	75
ATO (c/$)	19	24	28	38

Figure 5. The influence of farm size on return on assets and asset turnover ratio, 2002-2003



As total farm production increases, production per cow and per labour unit improves.

Figure 6. The influence of farm size on production and litres per labour unit, 2002-2003



6.7 Capital efficiency

Asset turnover ratio (ATO) is the measure of capital efficiency used in QDAS. It provides an indication of how the farm assets – land, buildings, plant and stock are used to produce milk. The formula used in the analysis is:

ATO = Total dairy income (milk income + cattle trading profit + Inventory changes) /asset value

The average value for cooperating farms in 2002 - 2003 was 25 cents for each dollar invested. In the United States of America 75 cents is regarded as a more prudent benchmark. Much of the milk is produced from feedlot operations, but it should be noted that in the large dairy states, such as Wisconsin, the average herd size is less than 100 milkers.

In 2000, 6% of QDAS farms achieved the benchmark of 30 cents in 2001 18 %, in 2002 31% whilst in 2003 24% achieved the benchmark.

Asset valuation plays a critical part in the above formula. In QDAS, farmers are asked to place a 'walk in-walk out' value on their asset after considering current land sales, cattle prices and plant auctions. Advisers have sought valuations from stock agents and valuers to assist in this process. The average dairy farm last year was valued at $1 477 100 a slight increase on the previous year. A three-year comparison of the asset breakdown is shown in Table 13 below.

Table 13. Land, plant and stock valuations for QDAS dairy farms, 2001, 2002 and 2003

	2000-01	%	2001-02	%	2002-03	%
Land & buildings	$864 079	66.7	$886 040	65.9	$960 280	65
Stock	$187 777	14.5	$206 461	15.4	$219 710	14.9
Plant	$157 154	12.1	$155 483	11.6	$174 790	11.8
Other*	$85 557	6.7	$95 990	7.1	$122 320	8.3
TOTAL	**$1 294 566**		**$1 343 974**		**$1 477 100**	

* Other includes; value of quota, shares, feed inventories & cash.

Critical questions to address when reviewing capital efficiency are:

- How can revenue be increased economically as the KPI to measure asset turnover does not consider the cost structure?
- Would relocation be an option for QDAS farms located in areas where land valuations are high?
- What would be the impact of; leasing additional land verses ownership, contracting land preparation verses ownership of plant?
- How would feed-lotting change the asset turnover ratio? The value of the productive asset – cows, increases markedly in proportion to the other assets in feed-lot operations, and
- What benchmark is appropriate for Queensland and NNSW?

6.8 Administration costs

Administration includes the following costs; accountancy, rates, registration of farm vehicles, insurance, telephone and associated office expenses, repairs to permanent improvements and membership of professional organisations. The average administration cost across all 184 farms in QDAS was $ 21 132 or 2.4 c/L. Administration is a fixed expense and hence get proportionately smaller as farms expand production. Table 14 provides this example.

Table 14. Administration costs for farms with increasing annual production, 2002-2003

Annual production	<750 000 L	750 –1.25m L	1.25-2.0m L	>2.0m L
Admin c/L	2.7	2.4	2.0	2.0
Admin $	$13 505	$23 206	$30 507	$49 424

7. Calculating total production costs

Variable production costs when measured as a percentage of gross milk income have risen to 70% this year. This increase is largely due to the decline in gross milk income from 40 c/L in 1999-00 to 38.9 c/L this year. Variable costs on average rose by approximately 4.7 c/L over the four years. Variable cost control is essential but it is also recommended that the total cost of production be calculated.

QDAS can calculate the total cash cost as well as the adjusted revenues and expenses required for an assessment of farm profit and calculation of profitability KPI's. Tables 15 and 16 below show the items included in each calculation.

The calculation of profit includes some non-cash items as expenses, e.g. adjustments to the purchased feedstocks, plant depreciation and management allowance. On the income side, adjustments are made for the use and or increase in the homegrown feed inventory. Consideration is given to the opening and closing cattle inventory, sales and purchases to arrive at the cattle trading profit.

Figure 7 is a map of farm performance for all QDAS co-operator farms. This, together with the tabulated profit analysis format shown in Table 17, clearly shows how QDAS calculates cash and profit analyses.

If the return on asset is below the benchmark or target set for your farm, it is simply a matter of tracing back up the map to isolate the areas that are above your predetermined target and formulating a plan to correct the problem area. The calculations are in total dollars but by dividing by the annual production (litres) or by the number of milkers or labour units a value per litre, per cow or per labour unit is possible.

Table 15. Total production cost on QDAS farms - standard profit analysis technique, 2002-2003

	Average farm	Top 1/3 of farms
Average return c/L*	38.5	40.5
Total variable cost c/L*	24.5	22.1
Administration costs c/L	2.3	1.9
Paid labour costs c/L	2.8	2.1
Imputed labour c/L**	4.5	4.1
Depreciation costs c/L	2.0	1.5
Finance costs c/L	2.8	2.6
Total production costs c/L	38.9	34.3

***** Inventory changes are included in these figures.
****** Imputed labour is calculated using the formula shown in Table 4.

Table 16. Cash production costs for QDAS farms - standard cash analysis technique 2002-2003

	Average farm	Top 1/3 of farms
Average return c/L	37.5	37.2
Total variable cost c/L	24.8	22.4
Administration costs c/L	2.3	1.9
Paid labour costs c/L	2.7	2.1
Principal + interest payments c/L	4.2	4.1
Living expenses c/L **	4.7	4.0
Total production costs c/L	38.7	34.5

***** $45 000 was used as the living expense. ** No capital expenditure is shown in this analysis.

Table 17. Input requirements for cash and profit determinations for the dairy enterprise

	Cash	*Your farm ($, c/L,$/cow)*	*Profit*	*Your farm ($, c/L,$/cow)*
INCOME				
Milk income	✓		✓	
Cattle sales	✓		✕	
Cattle trading profit	✕		✓	
HGF Inventory adjustments	✕		✓	
Other dairy income	✓		✓	
TOTAL INCOME				
COSTS				
Variable costs	✓		✓	
Purchased feed adjustments	✕		✓	
Administration	✓		✓	
Paid labour	✓		✓	
Depreciation	✕		✓	
Hire purchase payments	✓		✓	
Lease payments	✓		✓	
Interest payments	✓		✓	
Principal payments	✓		✕	
Personal living costs	✓		✕	
Management allowance	✕		✓	
TOTAL COSTS				
INCOME-COSTS				

✓ **Include this in your calculation** ✕ **Do not include this in your calculation**

Hire purchase payments contain both a principal and an interest component, if they can be separated show the interest component only in the profit analysis.

The data in Tables 15 and 16 represents the total operating costs for the average dairy farm and farms shown in Figure 7. These are both cash and profit calculations.

7.1 Gross margin and return on asset

Gross margin per cow (GM) and return on asset (RoA) are two indicators that are used extensively to measure farm performance. Tables 18 and 19 show summary data for all QDAS farms (184) divided into three equal groups.

Farms in the top third when ranked by **gross margin per cow** had the highest production per cow (6005L) and highest margin over feed costs ($1106). The differences between the lower third and the top third for these two indicators were 1298 L and $619 respectively.

Table 18. Farms ranked on gross margin per cow, 2002 - 2003

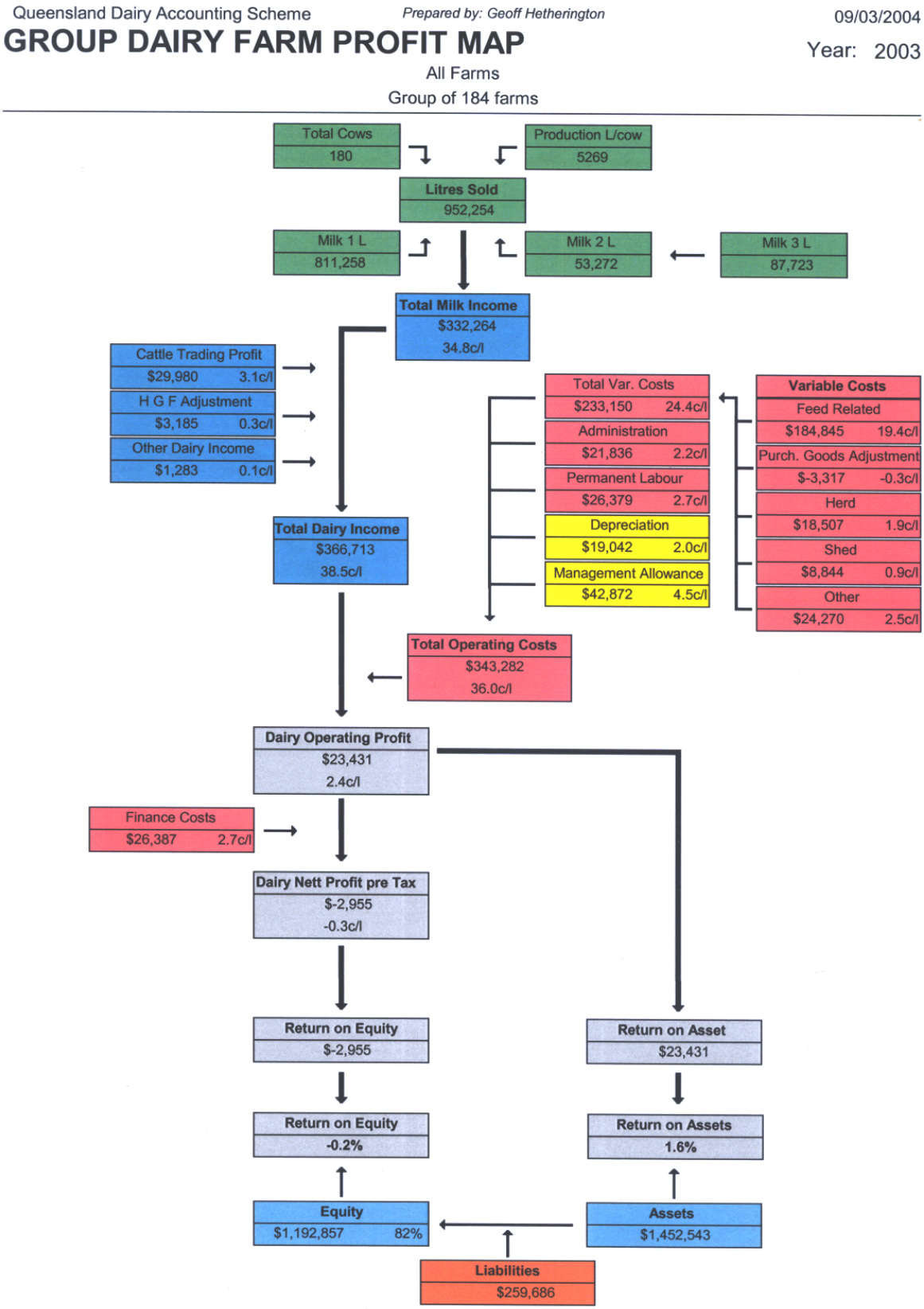
	Bottom third	Middle third	Top third
Gross margin per cow ($)	217	537	859
PPC (L)	4707	5004	6005
Total milk income ($/cow)	1639	1178	2116
Feed related cost ($/cow)	1142	935	1010
Margin over feed cost ($/cow)	487	813	1106

When divided into three groups based on percentage return on asset, the data indicated that the top one third of farms achieved a return of 6.84% and this group also achieved the highest per cow production. The increase over the lower group was 642 litres per cow. The margin over feed costs rose dramatically from a low of $562 per cow to $968.

Table 19. Farms ranked on percentage return on assets, 2002-2003

	Bottom third	Middle third	Top third
Return on asset (%)	-4.16	1.48	6.84
PPC (L)	4862	5125	5504
Total milk income ($/cow)	1747	1837	1935
Feed related cost ($cow)	1185	926	967
Gross margin ($/cow)	289	629	716
Margin over feed cost ($/cow)	562	910	968

Figure 7. Map of farm performance for all QDAS farms, 2002-2003



8. Managing change

Profitable dairying is possible on most farms; even those with lower annual production can achieve many of the QDAS benchmarks. Especially those benchmarks measured on a unit basis. However, economies of scale do present real advantages.

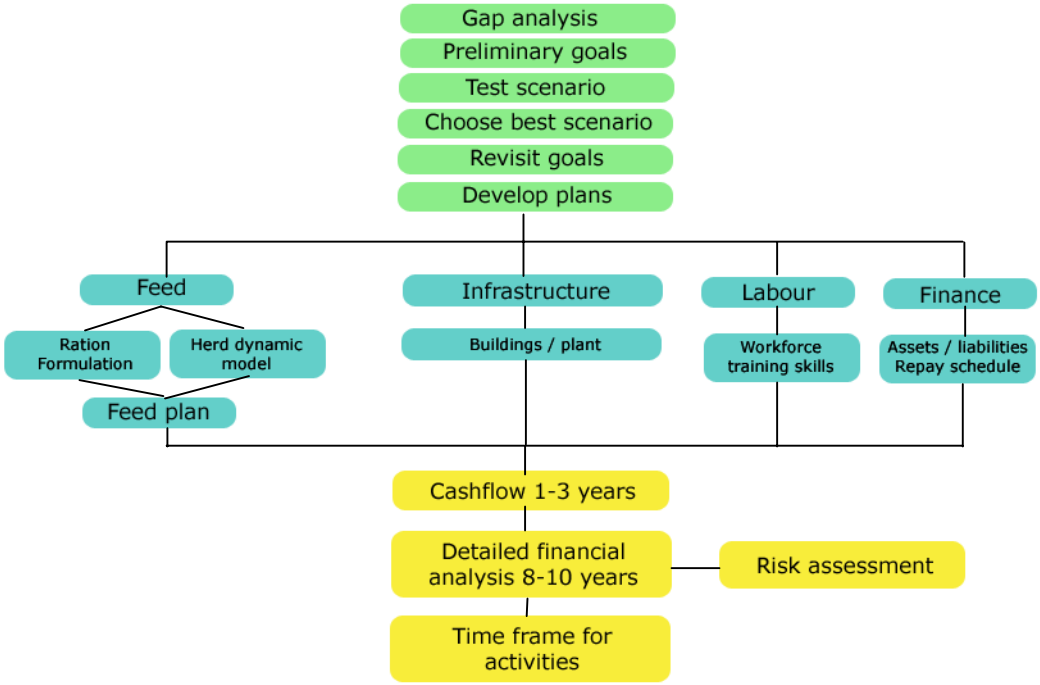
No matter what size farm you operate, attention needs to be given to the following:

1. Containing variable production costs, with an emphasis on optimising rather than minimising expenditure,
2. Growing the farm income, by increasing production - expanding the herd size and/or increasing production per cow. Production systems will need to be modified to maximise the return from the new payment schedules introduced by all processors. No dairy business will survive without increasing sales each year. Inflation alone will erode living standards. Farms with higher production levels have the potential to generate more cash surpluses and profit.
3. Avoiding over investment, as reported in section 6.7. Asset turnover ratio shows the relationship between income and investment,
4. Labour efficiency is very important, after feed costs, labour is the second largest expense,
5. Dairying in a deregulated industry where margins are reduced will require owners and managers to have at least basic business skills.

The decision path for expansion is complex, requiring caution and conservative analysis when compiling expansion budgets. During the initial change years (perhaps 2-3 years) a strong positive cash flow may not eventuate. For this reason projections need to be made over a 5 to 8 year period for substantial projects. Risk analysis can be as simple as generating budgets by focusing on the major items – income, feed costs, labour costs and debt.

A comprehensive asset replacement schedule should be compiled. This is essential to plan future cashflow requirements.

Figure 8. A process to adopt when considering a change to your business



Review the current farm production and financial data – conduct a gap analysis to determine the strengths and weaknesses of the present operation. (This allows you to build on your strengths and correct your weaknesses)

1. Set preliminary goals and objectives for the modified enterprise. (Goals and objectives will give you direction in planning.)
2. Test scenarios (There will be more than one way in which your goals will able to be achieved, eg buy the block next door or perhaps increase the herd size on your present property. Building a feed pad, increasing the size of the dairy may also be planning considerations.)
3. Based on the best scenario/s develop a cashflow budget (1-3 years). (Your cashflow budget will show you when and how big your cash surplus/deficit may be. From this you will be able to determine whether your over-draft will be able to cover a projected deficit. By changing the timing or size of capital purchases in your plans you can access the impact on key performance indicators.)
4. Develop a capital/asset budget for the proposed change. (This is where you list all the assets needed to achieve your goal eg, -mixer wagon or underground mains, how much they will cost what is their effective life?)
5. Complete a loan schedule/debt management plan. (This is where you evaluate repayment schedules. It is important to gear the loan structure to the life of the asset. For example, the purchase of a motorbike is a short term financing consideration whereas the purchase of land is a long- term issue). Farm equity is an important consideration; your equity and your financial risk are related.)
6. Conduct a detailed project analysis based on the above facts and figures (8-10 years). This analysis can compare the present operation with the “new” operation. By manipulating the figures you can determine the critical success factors and the impact on performance indicators.
7. Conduct a risk assessment. (Conduct “what if” scenarios, eg what if feed price increases, or you have 30 less lactations in a year, or you increase milk production. A map of likely outcomes can be produced to give you a range of possibilities to consider. This gives you the ability to see how sensitive your new business is to probable changes)

9. Appendices

9.1 Group annual report – South-east Queensland, 2002 – 2003

Queensland Dairy Accounting Scheme *Prepared by: Geoff Hetherington* 09/03/2004

GROUP CASH GROSS MARGIN

SEQ Period Ending: 6/2003

INCOME		Cents/Litre	Dollars/Cow	Total $ Earned
Milk 1	(708421 L)	35.1	1,477.0	249,009
Milk 2	(61271 L)	24.3	88.5	14,934
Milk 3	(138209 L)	23.1	189.5	31,948
Milk Bonuses/Incentives/Rebates		1.9	104.7	17,657
Other Dairy Income		0.1	7.7	1,305
Milk Income	(907901 L)	**34.6**	**1,867.6**	**314,855**
Stock Sales - Dairy		2.6	144.7	24,396
Stock Sales - Other		0.3	18.7	3,166
Produce Sales		0.1	7.6	1,293
Other Income		1.1	63.1	10,642
Non-Milk Income		**4.3**	**234.3**	**39,499**
Total Farm Income		**39.0**	**2,101.9**	**354,355**

PRODUCTION COSTS	Cents/Litre	Dollars/Cow	% Milk Income	Total $ Spent
Purchased Feeds	14.2	766.2	41.0	129,185
Fertiliser	1.5	81.2	4.3	13,690
Fuel & Oil	1.0	55.9	2.9	9,436
Seed	0.6	36.3	1.9	6,125
Irrigation Costs	0.9	51.3	2.7	8,652
Other Feed Costs	1.2	66.2	3.5	11,176
Feed Related Costs	**19.6**	**1,057.4**	**56.6**	**178,267**
Heifer Feeds	0.4	22.7	1.2	3,828
Animal Health	0.8	44.7	2.3	7,543
Herd Improvement	0.4	23.5	1.2	3,971
Herd Costs	**1.6**	**91.0**	**4.8**	**15,342**
Dairy Shed Costs - Electricity	0.4	24.4	1.3	4,124
Dairy Shed Costs - Chemicals	0.4	23.4	1.2	3,949
Shed Costs	**0.8**	**47.8**	**2.5**	**8,074**
Cartage	0.2	14.3	0.7	2,423
Levies	0.3	19.8	1.0	3,344
Repairs & Maintenance	1.5	83.3	4.4	14,054
Sundry Variable Costs	0.3	19.2	1.0	3,247
Other Variable Costs	**2.5**	**136.8**	**7.3**	**23,071**
Total Variable Costs	**24.7**	**1,333.1**	**71.3**	**224,755**
GROSS MARGINS - Milk Only	**9.9**	**534.4**	**28.6**	**90,100**
Whole Farm	**14.2**	**768.7**	**41.1**	**129,600**
Permanent Wages	2.7	145.8	7.8	24,584
Personal Drawings Etc	1.5	81.8	4.3	13,795

Labour Inputs		Areas (ha)		Stock		Production		
Permanent Unpaid	1.6	Milking Cow	108	Milking Cows	140	Fed To Calves (l)	9625	1%
Permanent Paid	0.7	Effective Dairy	186	Dry Cows	27	Protein Total (kg)	28343	3.13%
Casual Paid	0.1	Agistment	15.9	Heifers 15+	37	Butterfat Total (kg)	35646	3.94%
		Winter Irrigation	32	Heifers <15	59	Total Solids (kg)	63989	
		Summer Irrigation	30	Adult Equivalents	216	Litres / Cow	5385	
						Total Solids / Cow (kg)	379	
						Protein / Cow (kg)	168	
						Butterfat / Cow (kg)	211	

Farms in report: 106

9.2 Group annual report – Central Queensland, 2002 - 2003

Queensland Dairy Accounting Scheme *Prepared by: Geoff Hetherington* 09/03/2004

GROUP CASH GROSS MARGIN

CQ

Period Ending: 6/2003

INCOME		Cents/Litre	Dollars/Cow	Total $ Earned
Milk 1	(608515 L)	42.5	1,639.1	259,139
Milk 2	(18739 L)	32.3	38.3	6,059
Milk 3	(135548 L)	24.7	212.0	33,522
Milk Bonuses/Incentives/Rebates		1.8	90.2	14,267
Other Dairy Income		0.0	0.1	19
Milk Income	(762802 L)	**41.0**	**1,979.9**	**313,008**
Stock Sales - Dairy		2.2	109.0	17,246
Stock Sales - Other		0.1	8.5	1,345
Produce Sales		0.2	11.6	1,848
Other Income		1.2	61.5	9,731
Non-Milk Income		**3.9**	**190.8**	**30,171**
Total Farm Income		**44.9**	**2,170.7**	**343,179**

PRODUCTION COSTS	Cents/Litre	Dollars/Cow	% Milk Income	Total $ Spent
Purchased Feeds	13.3	642.0	32.4	101,494
Fertiliser	1.6	81.4	4.1	12,875
Fuel & Oil	1.4	68.9	3.4	10,901
Seed	0.5	28.5	1.4	4,520
Irrigation Costs	1.3	66.5	3.3	10,525
Other Feed Costs	0.9	44.4	2.2	7,032
Feed Related Costs	**19.3**	**932.0**	**47.0**	**147,349**
Heifer Feeds	0.5	27.9	1.4	4,412
Animal Health	0.8	38.9	1.9	6,161
Herd Improvement	0.5	24.2	1.2	3,835
Herd Costs	**1.8**	**91.1**	**4.6**	**14,409**
Dairy Shed Costs - Electricity	0.4	23.0	1.1	3,647
Dairy Shed Costs - Chemicals	0.5	24.4	1.2	3,872
Shed Costs	**0.9**	**47.5**	**2.4**	**7,520**
Cartage	2.0	99.3	5.0	15,712
Levies	0.3	17.5	0.8	2,781
Repairs & Maintenance	1.8	90.5	4.5	14,308
Sundry Variable Costs	0.0	2.2	0.1	349
Other Variable Costs	**4.3**	**209.7**	**10.5**	**33,152**
Total Variable Costs	**26.5**	**1,280.4**	**64.6**	**202,431**
GROSS MARGINS - Milk Only	**14.4**	**699.4**	**35.3**	**110,577**
Whole Farm	**18.4**	**890.3**	**44.9**	**140,748**
Permanent Wages	3.8	187.5	9.4	29,643
Personal Drawings Etc	4.0	197.2	9.9	31,185

Labour Inputs		Areas (ha)		Stock		Production		
Permanent Unpaid	1.6	Milking Cow	74	Milking Cows	133	Fed To Calves (l)	14100	2%
Permanent Paid	0.9	Effective Dairy	210	Dry Cows	25	Protein Total (kg)	23829	3.11%
Casual Paid	0.1	Agistment	21.8	Heifers 15+	55	Butterfat Total (kg)	30265	3.94%
		Winter Irrigation	26	Heifers <15	59	Total Solids (kg)	54094	
		Summer Irrigation	25	Adult Equivalents	220	Litres / Cow	4825	
						Total Solids / Cow (kg)	342	
						Protein / Cow (kg)	150	
						Butterfat / Cow (kg)	191	

Farms in report: 11

9.3 Group annual report North Queensland, 2002 - 2003

Queensland Dairy Accounting Scheme *Prepared by: Geoff Hetherington* 09/03/2004

GROUP CASH GROSS MARGIN AT Period Ending: 6/2003

INCOME		Cents/Litre	Dollars/Cow	Total $ Earned
Milk 1	(1228714 L)	32.3	1,652.9	397,298
Milk 2	(0 L)	**.*	0.0	0
Milk 3	(0 L)	**.*	0.0	0
Milk Bonuses/Incentives/Rebates		0.6	35.3	8,498
Other Dairy Income		0.1	7.5	1,807
Milk Income	(1228714 L)	**33.1**	**1,695.7**	**407,604**
Stock Sales - Dairy		1.9	101.3	24,366
Stock Sales - Other		0.1	5.9	1,419
Produce Sales		0.0	0.3	84
Other Income		0.7	37.2	8,962
Non-Milk Income		**2.8**	**144.9**	**34,833**
Total Farm Income		**36.0**	**1,840.7**	**442,437**

PRODUCTION COSTS	Cents/Litre	Dollars/Cow	% Milk Income	Total $ Spent
Purchased Feeds	11.9	612.7	36.1	147,290
Fertiliser	2.8	144.1	8.4	34,639
Fuel & Oil	0.6	31.6	1.8	7,615
Seed	0.2	12.0	0.7	2,886
Irrigation Costs	0.3	20.2	1.1	4,864
Other Feed Costs	0.5	26.7	1.5	6,434
Feed Related Costs	**16.5**	**847.5**	**49.9**	**203,731**
Heifer Feeds	0.8	45.2	2.6	10,882
Animal Health	1.1	61.1	3.6	14,689
Herd Improvement	0.7	39.5	2.3	9,517
Herd Costs	**2.8**	**145.9**	**8.6**	**35,088**
Dairy Shed Costs - Electricity	0.4	24.3	1.4	5,840
Dairy Shed Costs - Chemicals	0.3	16.7	0.9	4,016
Shed Costs	**0.8**	**41.0**	**2.4**	**9,857**
Cartage	0.2	14.7	0.8	3,550
Levies	0.6	30.7	1.8	7,384
Repairs & Maintenance	0.8	42.2	2.4	10,158
Sundry Variable Costs	0.3	19.7	1.1	4,746
Other Variable Costs	**2.1**	**107.5**	**6.3**	**25,839**
Total Variable Costs	**22.3**	**1,142.0**	**67.3**	**274,516**
GROSS MARGINS - Milk Only	**10.8**	**553.6**	**32.6**	**133,087**
Whole Farm	**13.6**	**698.6**	**41.1**	**167,920**
Permanent Wages	2.2	112.5	6.6	27,063
Personal Drawings Etc	2.3	118.0	6.9	28,379

Labour Inputs		Areas (ha)		Stock		Production		
Permanent Unpaid	1.7	Milking Cow	109	Milking Cows	192	Fed To Calves (l)	10413	1%
Permanent Paid	0.6	Effective Dairy	186	Dry Cows	47	Protein Total (kg)	37813	3.08%
Casual Paid	0.2	Agistment	10.8	Heifers 15+	43	Butterfat Total (kg)	46150	3.79%
		Winter Irrigation	16	Heifers <15	70	Total Solids (kg)	83963	
		Summer Irrigation	10	Adult Equivalents	296	Litres / Cow	5111	
						Total Solids / Cow (kg)	349	
						Protein / Cow (kg)	157	
						Butterfat / Cow (kg)	192	

Farms in report: 22

9.4 Group annual report Northern New South Wales, 2002 - 2003

Queensland Dairy Accounting Scheme *Prepared by: Geoff Hetherington* 09/03/2004

GROUP CASH GROSS MARGIN NNSW Period Ending: 6/2003

INCOME		Cents/Litre	Dollars/Cow	Total $ Earned
Milk 1	(883298 L)	33.1	1,567.9	293,210
Milk 2	(98026 L)	36.9	193.7	36,226
Milk 3	(0 L)	**.*	0.0	0
Milk Bonuses/Incentives/Rebates		2.0	109.8	20,541
Other Dairy Income		0.1	6.5	1,232
Milk Income	(981323 L)	**35.7**	**1,878.1**	**351,210**
Stock Sales - Dairy		2.2	120.2	22,493
Stock Sales - Other		0.2	13.0	2,438
Produce Sales		0.2	12.9	2,421
Other Income		2.1	114.0	21,329
Non-Milk Income		**4.9**	**260.3**	**48,683**
Total Farm Income		**40.7**	**2,138.4**	**399,893**

PRODUCTION COSTS	Cents/Litre	Dollars/Cow	% Milk Income	Total $ Spent
Purchased Feeds	14.0	739.2	39.3	138,233
Fertiliser	2.7	145.4	7.7	27,208
Fuel & Oil	0.9	48.7	2.5	9,115
Seed	1.3	68.8	3.6	12,875
Irrigation Costs	0.4	25.2	1.3	4,713
Other Feed Costs	1.1	61.7	3.2	11,542
Feed Related Costs	**20.7**	**1,089.2**	**57.9**	**203,689**
Heifer Feeds	0.9	48.8	2.5	9,125
Animal Health	0.5	27.4	1.4	5,131
Herd Improvement	0.5	27.6	1.4	5,170
Herd Costs	**1.9**	**103.8**	**5.5**	**19,428**
Dairy Shed Costs - Electricity	0.5	29.3	1.5	5,484
Dairy Shed Costs - Chemicals	0.5	27.0	1.4	5,053
Shed Costs	**1.0**	**56.3**	**3.0**	**10,537**
Cartage	0.4	23.3	1.2	4,357
Levies	0.2	15.7	0.8	2,937
Repairs & Maintenance	1.5	81.0	4.3	15,152
Sundry Variable Costs	0.2	10.7	0.5	2,013
Other Variable Costs	**2.4**	**130.8**	**6.9**	**24,460**
Total Variable Costs	**26.3**	**1,380.2**	**73.4**	**258,115**
GROSS MARGINS - Milk Only	**9.4**	**497.8**	**26.5**	**93,094**
Whole Farm	**14.4**	**758.1**	**40.3**	**141,778**
Permanent Wages	2.8	151.4	8.0	28,325
Personal Drawings Etc	3.1	163.6	8.7	30,600

Labour Inputs		Areas (ha)		Stock		Production		
Permanent Unpaid	1.4	Milking Cow	91	Milking Cows	174	Fed To Calves (l)	18048	2%
Permanent Paid	0.7	Effective Dairy	162	Dry Cows	12	Protein Total (kg)	31508	3.20%
Casual Paid	0.1	Agistment	8.7	Heifers 15+	54	Butterfat Total (kg)	37939	3.88%
		Winter Irrigation	25	Heifers <15	55	Total Solids (kg)	69447	
		Summer Irrigation	23	Adult Equivalents	247	Litres / Cow	5247	
						Total Solids / Cow (kg)	371	
						Protein / Cow (kg)	168	
						Butterfat / Cow (kg)	202	

Farms in report: 47

Notes