

Building a Better Dairy Business

QDAS
Financial & Production
Trends 2002

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Preface

This report is based on physical and financial data supplied by co-operators to the *Queensland Dairy Accounting Scheme* (QDAS) in Queensland and Northern New South Wales. This is the first report where detailed information from Northern New South Wales is included. Participation in the scheme is voluntary and therefore results and trends may not necessarily be representative of all farms in the target area.

The data is presented in tables and graphs with introductory comments and discussion. In some sections it is appropriate to present comparative data from the past years. The dairy industry was fully deregulated in July 2000, the data from 1998-1999 and 1999-2000 reflects a regulated industry environment while data from 2000-2001 and 2001-2002 reflects a deregulated industry.

Most of the collection area experienced drought in 2002. The full effects of this drought are **not** reflected in figures to June 2002.

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,
- 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 the series of discussion groups held during late 2002. We also acknowledge the support and effort provided by the field staff from the major Dairy Processors in the target region.

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January 2003

1. Introduction

This publication presents production and financial data from South-east, Central and North Queensland and Northern New South Wales dairy farms. It is the second *Queensland Dairy Accounting Scheme (QDAS) Report* since the industry was fully deregulated on 1 July 2000.

Each of the four regions have unique production systems and supply management arrangements so **caution** needs to 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 percent of Norco Cooperative Suppliers cooperated in the scheme.

The first four sections in the book present benchmarking and basic farm statistics while the following sections present more detailed financial analysis, examine trends and highlight practices designed to improve both cashflow and profit. The cost of production is

calculated on both a cash and a profit basis. The costings are presented in section 7.

Industry benchmarks have remained the same for 2001 and 2002. Where required, regional benchmarks are given to accommodate the various production and payment systems.

Selected diagnostics (*Gap Analysis*) are included (Section 8), producers with data are encouraged to input their results, compare them with the regional or state benchmark, and/or their farm target and calculate the percent variance, or gap from their target. The strengths and weaknesses of the business can be identified. This is a vital first step in understanding the business prior to considering or developing a change plan.

An area has also been included for producers to write in their physical farm data on production and labour usage. This is helpful when farmers with similar size farms or production systems are discussing their results.

Managing change is critical, especially where large investments are required. The last section provides a structured path to effectively manage change.



Performance Diagnostic

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

** To calculate variance: $[(\text{My result} - \text{Benchmark}) / \text{Benchmark}] * 100$

2. Summary of results 2001-2002

Milk returns in the first year of deregulation, 2000-2001, declined more than most industry participants expected, impacting greatly on profit, financial and capital efficiency indicators.

New benchmarks, introduced in 2001, were retained this year.

In addition a number of new KPI's have been included. The number of registered dairies in Queensland declined by approximately 21.8% from 1 535 to 1 200 in the two years to June 2002. Cooperator numbers in the scheme have been maintained by the addition of data from northern New South Wales.

Some positive results and trends were achieved in 2001 – 2002:

- Dairy farmers maintained liquidity with 84% of co-operators achieving the benchmark of spending less than 20% of their gross milk income serving debt,
- When sorted by the return achieved on assets, farms in the top 33% category achieved a 6.5% return,
- Solvency remains strong with 72% of farms achieving the benchmark of 75% equity,
- Cattle sale prices remained strong through most of 2001-2002. The effect on inventory valuations meant that cattle trading profit exceeded cash sales, thereby influencing the return on assets,
- Milk income recovered marginally with average returns improving by 6 to 8%,
- Variable costs were contained in 2000 - 2001, this year the average variable cost

of production rose by 2 cents per litre to 21.5 cents. All processors have modified their cartage systems. Milk cartage is now an insignificant expense when reported as a variable cost. More importantly, feed related and total variable costs now account for 48% and 65% of gross milk income respectively,

- The interaction of per cow production and the margin over feed related costs is reported in section 6. A strong positive correlation has been shown in these indicators for four years. Increasing per cow production improves the margin. The group averaging 6-7 000 litres per cow obtained a margin over feed of \$1042 per cow.
- Obtaining high milk volumes per hectare has proven profitable. Figure 3 in section 6 shows the impact of high stocking rates on milk production and farm gross margins,
- Farms with annual production exceeding 2 million litres achieved the highest per cow production, the highest gross margin per cow and rated the highest on all profit indicators,
- The 2 million litre group achieved an asset turnover ratio of 41 cents for each dollar invested in their farm,
- Labour efficiency in general could be improved with less than 30% of farms achieving modest benchmarks.

3. Key performance indicators & benchmarks for 2001-2002

Fourteen Key Performance Indicators (KPI's) are used in this report to monitor farm performance. Table 1 shows these indicators grouped under the four key Business trait headings:

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

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.

Other 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. Benchmark and the number of participants achieving the benchmark are shown for the key indicators in Table 2.

Table 1. Key performance indicators, 2001-2002.

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

Table 2. Benchmarks and the percentage of farms achieving the benchmark in 2001 and 2002.

Business traits and Indicators	QDAS average	Benchmark	Percent achieving the benchmark	
			2000-01	2001-02
Liquidity				
% of milk income spent servicing debt	11%	<20%	NA	84%
Interest paid/cow	\$83	<\$200/cow	NA	90%
Profitability				
RoA	2.4%	> 8%	4%	7%
RoE	0.8%	> 8%	2.5%	6%
OPM	9.6%	25%	NA	NA
Solvency				
Equity %	83%	>75%	75%	72%
Efficiency				
- Capital				
ATO	24 c/\$	30 c/\$	6%	18%
- Financial				
FRC	15.8 c/L	12 c/L	47%	19%
MOFRC	\$891	SEQ,CQ,NNSW \$1200/cow	16%	12%
	\$835	NQ \$1 000/cow	22%	22%
TVC	21.6 c/L	19 c/L	51%	32%
GM	\$599	SEQ,CQ,NNSW \$800/cow	18%	37%
	\$554	NQ \$600/cow	22%	20%
Physical				
Litres of milk from HGF	10 L	15 L	12%	10%
Production per cow	5157 L	>6 000 L	19%	20%
Litres per labour unit	260 101 L	On farms <750 000 L target 400 000 LLU	10%	10%
	440 419 L	On farms >750 000 L Target 500 000 LLU	18%	27%

3.1 Gross margin and return on asset

Physical KPI's are independent of the milk income, as is the KPI for feed related cost and total variable cost.

Gross margin per cow (a financial efficiency KPI) and return on asset (a profitability KPI) are two indicators that are used extensively to measure farm performance. Tables 3 and 4

show summary data for all QDAS farms (209) broken into three equal groups.

Farms in the top tier when ranked by **gross margin per cow** had the highest production per cow and highest margin over feed costs. The differences from the lower group for these indicators were 1 218 litres and \$547 respectively.

Table 3. Farms ranked on gross margin per cow, 2001-2002.

	Bottom third	Middle third	Top third
Gross margin per cow	\$318	\$589	\$857
PPC	4 500 L	5 149 L	5 781 L
Total milk income	\$1 458 per cow	\$1 689 per cow	\$1 947 per cow
Feed related cost	\$842 per cow	\$826 per cow	\$784 per cow
Margin over feed cost	\$616 per cow	\$863 per cow	\$1 163 per cow

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 6.5% and this group also achieved

the highest per cow production. The increase over the lower group was 307 litres per cow. The margin over feed costs rose dramatically from a low of \$616 per cow to \$999.

Table 4. Farms ranked on percentage return on assets, 2001-2002.

	Bottom third	Middle third	Top third
Return on asset	-1.87%	1.97%	6.5%
PPC	4 972 L	5 130 L	5 279 L
Total milk income	\$1 618 per cow	\$1 693 per cow	\$1 772 per cow
Feed related cost	\$875 per cow	\$804 per cow	\$773 per cow
Gross margin	\$454 per cow	\$603 per cow	\$775 per cow
Margin over feed cost	\$616 per cow	\$863 per cow	\$999 per cow

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 5. 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 have expanded their milking herds. In NQ the farms producing more than 750 000 litres annually have increased cow numbers by 30% to 268 milkers and annual production increased by 22 percent,
- Stocking rates are conservative in all groups,
- Owners of farms in the lower production group need to seriously consider their long-term future if production remains static. Annual inflation will slowly erode cash surpluses,
- There is a noted reduction in heifer numbers in some regions, and
- NNSW data indicates that farms in that region have similar statistics to that obtained in SEQ.

Table 5. Herd size & stocking rates for all QDAS regions, 2001 & 2002.

South-east Queensland

Farm production	<750 000 L		>750 000 L	
	2000-01	2001-02	2000-01	2001-02
Year				
Mean production	510 555 L	525 927 L	1 183 296 L	1 270 643 L
Milkers+dry cows	109	114	204	222
Heifers >15 months	31	31	70	31
Heifers <15 months	40	41	75	54
Milking cow area	89	89	126	109
Effective dairy area	156	172	226	192
Cows/1 ha milking area	1.22	0.88	1.62	1.51

Central Queensland

Farm production	<750 000 L		>750 000 L	
	2000-01	2001-02	2000-01	2001-02
Year				
Mean production	474 395 L	514 373 L	1 270 736 L	1 027 362 L
Milkers+dry cows	110	120	283	198
Heifers >15 months	33	21	72	36
Heifers <15 months	47	28	123	75
Milking cow area	134	163	109	76
Effective dairy area	222	176	268	216
Cows/1 ha milking area	0.82	1.12	2.6	2.61

North Queensland

Farm production	<750 000 L		>750 000 L	
	2000-01	2001-02	2000-01	2001-02
Year				
Mean production	525 062 L	518 770 L	1 182 360 L	1 442 420 L
Milkers+dry cows	127	117	206	268
Heifers >15 months	26	32	54	51
Heifers <15 months	37	41	78	62
Milking cow area	75	84	95	109
Effective dairy area	126	158	166	198
Cows/1 ha milking area	1.69	1.39	2.16	2.45

Northern NSW

Farm production	<750 000 L		>750 000 L	
	2000-01	2001-02	2000-01	2001-02
Year				
Mean production	NA	498 725 L	NA	1 122 275 L
Milkers+dry cows		119		204
Heifers >15 months		39		60
Heifers <15 months		41		64
Milking cow area		59		83
Effective dairy area		118		151
Cows/1 ha milking area		2.0		2.46

4.2 Labour resources

The number of labour units contributing to the milk production was recorded under two headings in 2002:

- 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 6. Average regional labour information is summarised in Table 7.

Table 6. Imputed labour / management allowance calculation used in 2001-2002.

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 7. Regional labour statistics, 2001-2002.

Region	No of units	Cost	Average Litres produced per labour unit
	Paid + unpaid	Paid + imputed	
SEQ	0.9 + 1.4 = 2.3	\$25 799 + \$41 144 = \$66 943	370 935 L
CQ	1.6 + 1.1 = 2.7	\$30 395 + \$40 167 = \$70 562	274 951 L
NQ	0.4 + 1.7 = 2.1	\$17 398 + \$43 046 = \$60 444	487 956 L
NNSW	0.8 + 1.3 = 2.1	\$24 347 + \$43 370 = \$67 717	408 222 L

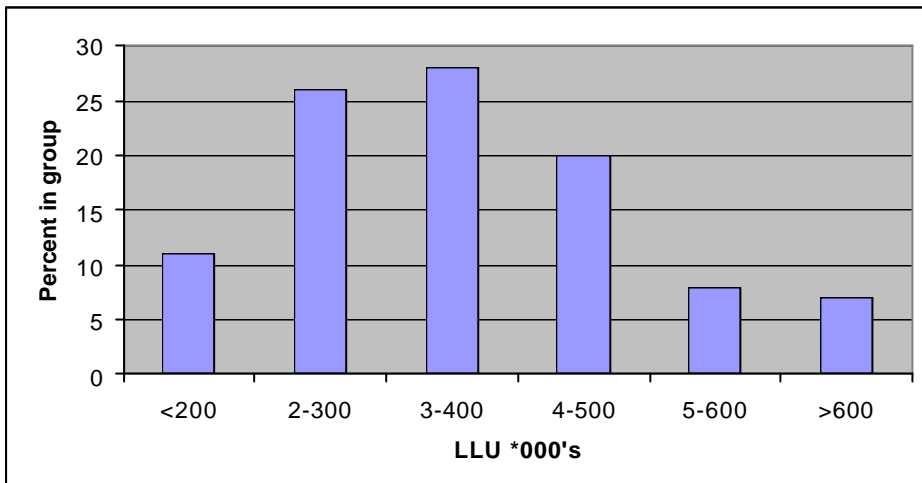
Being able to make the best use of labour is essential - it's a matter of trying to work smarter, combined with knowing the value of each labour unit and equating any capital expenditure against potential labour savings. The question - how best should labour be utilised, is one of the areas which needs 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,
- 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 2001-2002.



5. Trends in farm financial performance in SEQ, CQ & NQ

The trends in the financial performance over the last four years for farms in SEQ, CQ and NQ are shown in following tables.

- There has been an increase in the size of the milking herd, with NQ herds averaging over 200 cows,
- Despite data showing an increase in margins as farms increase production per cow, farmers have not adopted technology to achieve the increases, the production level remains at approximately 4 800 to 5 200 litres per cow in the regions,
- There has been a slight increase in milk returns since deregulation. Recent changes to milk cartage system now mean that cartage is an insignificant variable cost. The decline in farm gate returns in CQ, post deregulation, would have been greater had producers not significantly increased their farm quotas (Paul's Daily Access or PDA). They increased by 543 litres daily, from 1 217 litres in 2000 to 1 760 litres in 2002,
- The increase in unit milk returns has been eroded by an increase in feed costs in the last year,
- Variable costs account for over 60 percent of gross milk income. A healthy gross margin is essential if you are to achieve a high return on assets,
- Asset turnover is low with both groups averaging approximately 25 cents of revenue for each dollar invested,
- Dairy farmers have been able to maintain a strong equity position, and
- Operating profit margin remains well below the benchmark of 25%.

Table 8. Trends in financial KPI's over the four years 1999 to 2002 - SEQ, CQ & NQ.

South east Queensland

	1998-1999	1999-2000	2000-2001	2001-2002
Total milk income	41.1 c/L	40.0 c/L	30.4 c/L	32.6 c/L
Farm gate return	37.8 c/L	36.5 c/L	28.1 c/L	31.8 c/L
Average herd size	126	129	137	161
PPC	5 063 L	5 144 L	5 135 L	5 260 L
FRC*	11.6 c/L	11.4 c/L	12.7 c/L	16.0 c/L
TVC	20.9 c/L	20.8 c/L	19.5 c/L	21.6 c/L
Gross margin	20.2 c/L	19.1 c/L	10.9 c/L	11.0 c/L
Equity	82%	81%	85%	84%
RoA	4.4%	4.3%	0.45%	2.1%
ATO	22 c/\$	25 c/\$	18 c/\$	24 c/\$
OPM	19.2%	17.5%	2.4%	8.7%

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

North Queensland

	1998-1999	1999-2000	2000-2001	2001-2002
<i>Total milk income</i>	36.9 c/L	35.5 c/L	28.3 c/L	31.5 c/L
Farm gate return	34.7 c/L	33.2 c/L	27.8 c/L	31.0 c/L
Average herd size	161	161	171	205
PPC	5 163 L	5 149 L	4 962 L	4 975 L
FRC*	13.1 c/L	12.3 c/L	11.7 c/L	14.8 c/L
TVC	21.1 c/L	20 0 c/L	17.3 c/L	20.4 c/L
Gross margin	15.7 c/L	15.4 c/L	10.9 c/L	11.1 c/L
Equity	74%	74%	78%	80%
RoA	3.4%	3.7%	0.72%	2.8%
ATO	28 c/\$	32 c/\$	21 c/\$	26 c/\$
OPM	12.1%	11.1%	3.3%	10.7%

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

Central Queensland

	1998-1999	1999-2000	2000-2001	2001-2002
<i>Total milk income</i>	46.8 c/L	44.3 c/L	35.2 c/L	37.7 c/L
Farm gate return	43.0 c/L	40.4 c/L	32.9 c/L	35.4 c/L
Average herd size	137	147	145	154
PPC	5 036 L	5 084 L	4 977 L	4 721 L
FRC*	13.3 c/L	13.0 c/L	13.0 c/L	16.9 c/L
TVC	22.6 c/L	21.8 c/L	20.4 c/L	24.4 c/L
Gross margin	24.2 c/L	22.5 c/L	14.7 c/L	13.3 c/L
Equity	80%	80%	79%	78%
RoA	6.1%	8.5%	3.6%	2.7%
ATO	27 c/\$	31 c/\$	25 c/\$	3.8 c/\$
OPM	22%	27%	14%	10%

* There has been a minor change in the way FRC has been calculated over the years. The CQ data in this table has been compiled for the same 12 farms each year.

6. Understanding production & financial relationships

6.1 Variability in gross margins and per cow production

Figure 4 shows the variability in both production and the gross margin obtained per cow this year. It shows a range in production per cow from 2 107 to 7 987 litres while gross margin ranges from -\$177 to \$1 436. To be more specific if we just focus in the area of 5 800 to 6 000 litres per cow, the range in gross margin per cow is \$647, or from \$443 to \$1 090 per cow.

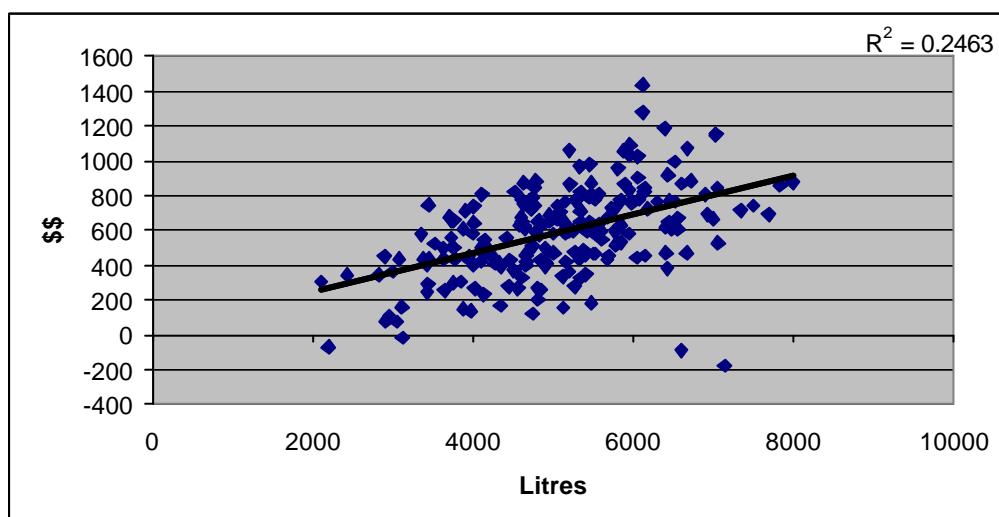
This variation indicates that there is tremendous room for improvement on many farms. Each QDAS farm is represented by a dot in the figure. By identifying your position on the figure you could estimate how your

production and gross margin compares with – all other farms and more importantly with farms producing at your level. The next step is to compare yourself 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 6 000 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, 2001-2002.



Some of the variability 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 asset

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 2001-2002, 10.0 litres per cow was produced on average from home grown feed. Other statistics showed the following production from home grown feed:

- On QDAS farms where the total variable cost was less than 19 cents per litre – production for home grown feed was 11.6 litres per cow,
- Where the total variable cost was greater than 19 cents per litre it reduced to 8.9 litres per cow,
- North Queensland farms recorded – 9.2 litres per cow,
- Woodford, Kilcoy farms recorded – 9.6 litres per cow,
- Dayboro farms recorded - 5.4 litres, per cow
- Central Queensland farms recorded – 8.3 litres, and
- Beaudesert farms recorded – 11.4 litres per cow for home grown feed.

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

Table 9. Target yields from forage.

Pasture system	Potential yield from pasture	Production target/cow	% required from forage	Daily milk from forage
Tropical	3 500 – 4 000 L	6 500 L	55 –60%	11.5 –13.5 L
Temperate	4 500 – 5 200 L	7 500 L	60 –65%	15.0 –17.0 L

6.3 Strategic nitrogen application

Fertiliser use has been collated on 145 farms in 2001-2002. To analyse the effect of nitrogen fertiliser use the farms segregated into - high rainfall farms (NQ, N NSW and coastal SEQ) or low rainfall farms (Burnett and the Downs).

The next process was to divide the data from each rainfall group into three equal sub groups – based on nitrogen usage ie high, medium or low. The effects on farm production and gross margins are shown in table 10 below.

In the high rainfall group the average nitrogen levels in the high use group was 140

kilograms per milker, while in the low rainfall areas the average for the high group users was 107 kilograms per milker. The dry conditions reduced fertiliser usage when compared to levels used in the late 1990's.

When examining a three-year running average (Table 11) of fertiliser use, the farms that used strategic fertiliser applications achieved the following:

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

Table 10. Impact of nitrogen fertiliser on Production per cow and Gross margin, 2001-2002.

Nitrogen usage	High rainfall			Low rainfall		
	Low	medium	high	Low	Medium	High
Units of N/cow	38 kgs	85 kgs	140 kgs	25 kgs	54 kgs	107 kgs
PPC	4 538 L	5 105 L	5 370 L	4 970 L	5 377 L	5 503 L
Prod'n/ farm	767 412 L	901 487 L	992 643 L	706 063 L	703 206 L	681 514 L
GM/farm	\$84 141	\$115 562	\$112 613	\$106 651	\$66 917	\$97 879
Lits from HGF	383 939 L	585 142 L	603 856 L	425 033 L	383 444 L	542 495 L

Table 11. Impact of nitrogen fertiliser – three year average (2000-2002)

Nitrogen usage	High rainfall			Low rainfall		
	Low	Medium	High	Low	Medium	High
Units of N/cow	30 kgs	72 kgs	136 kgs	25 kgs	58 kgs	97 kgs
GM/farm	\$91 000	\$107 200	\$124 700	\$73 900	\$97 200	\$101 000

6.4 Increasing stocking rate

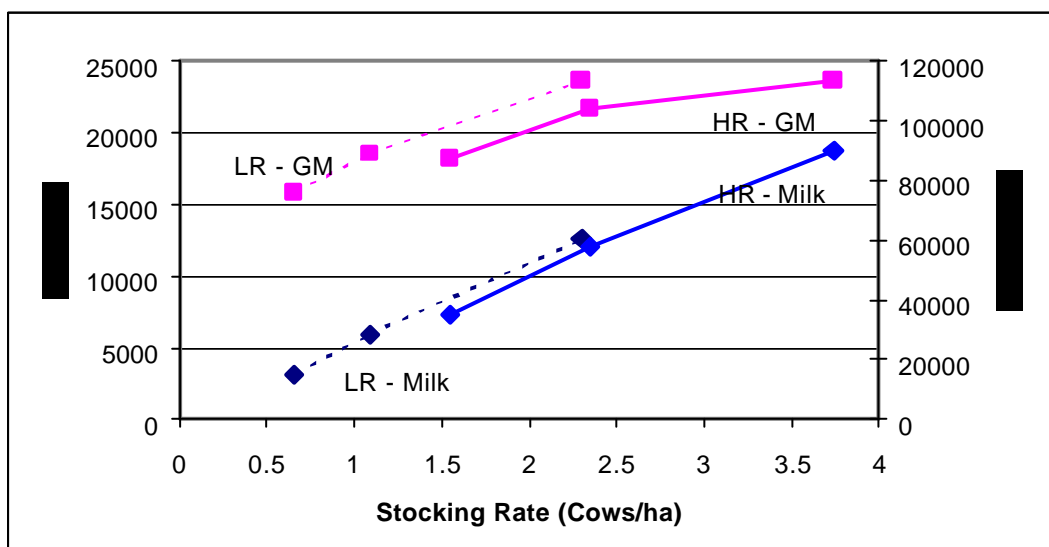
QDAS data indicates that producing larger volumes of milk per hectare by utilising higher stocking rates on the milking cow areas will improve farm gross margins significantly. This statement remains true whether your farm is in a low or high rainfall area.

For the last two years our data confirms this statement. Figure 3 shows the data for 2001-2002. The solid lines represent high rainfall

areas while the dotted line represents low rainfall areas.

In the high rainfall area, as stocking rate increases from 1.55 to 3.74 cows per hectare the milk produced increases from 7 283 litres to 18 834 litres per hectare. This 158 percent increase in production raised gross margin per farm from \$87 789 to \$113 332 or by 29 percent. A similar trend is shown for farms in low rainfall areas.

Figure 3. The effect of raising stocking rate per hectare, 2001-2002.



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 cows diet, thereby utilising her genetic potential, you increase the margin over feed costs, the gross margin per cow and per farm.

In table 12 data for 2001-2002 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 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 5-6 000 and 6-7 000 litre groups had approximately 180 cows each,
- Feed related costs only varied by 1.4 cents per litre across the groups, with the

highest production per cow group having the equal lowest cost at 15.2 c/L,

- The margin over feed costs per cow and in dollars per farm steadily rose as production increased,
- Farm gross margin increased from \$60 886 to \$136 525 at the extremes.

Table 12. Costs and returns for 5 per cow production groups, 2001-2002.

Production group	<4 000 L	4-5 000 L	5-6 000 L	6-7 000 L	>7 000 L
No of farms	39	59	69	31	11
Litres (L)	514 282	716 735	995 756	1 158 100	1 349 884
Average herd size	149	156	180	179	183
Production/cow (L)	3 427	4 566	5 489	6 415	7 336
Total milk income (c/L)	33.0	33.2	33.1	32.8	32.5
Margin over FRC	18.0	17.6	17.4	16.3	16.6
Margin over FRC/cow	617	802	953	1 042	1 217
Gross margin/cow	406	532	646	722	742
Gross margin/farm	60 886	83 598	117 154	130 369	136 525

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

At production levels of 6-7 000 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.

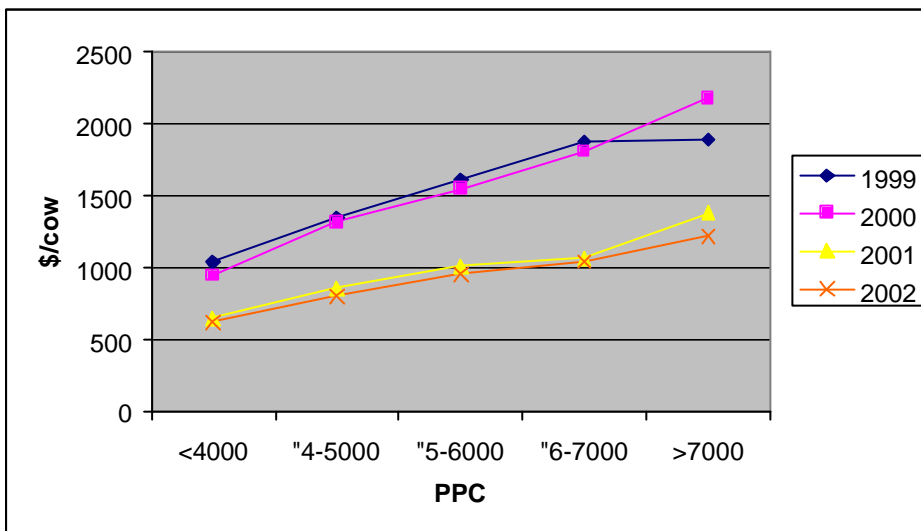
Table 13. Proportion of energy intake partitioned for maintenance and milk production.

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 1999 to 2002.



6.6. Farm productivity and profitability is aligned to size

Table 14 and figure 5 and 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, and

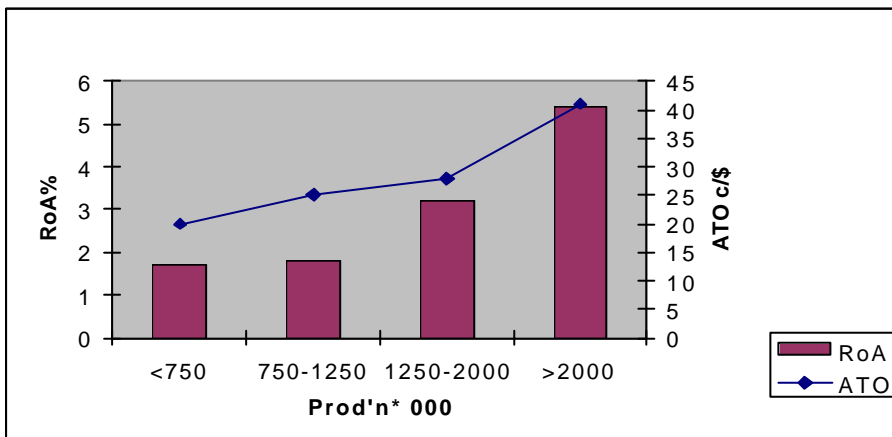
- The margin over feed costs per cow tapers off on the largest farms, but the gross margin per farm improves as the extra cows contribute to the total margin.

Table 14. The influence of level of production on financial ratios, 2001-2002

Production	<750 000 L	750 000– 1.25 mL	1.25 –2.0 mL	>2.0 mL
	521 651 L	956 785 L	1 458 806 L	2370790 L
Herd size	117	179	255	392
PPC	4 438 L	5 323 L	5 700 L	6 043 L
Margin over FRC	\$806	\$914	\$974	\$883
GM/cow	\$530	\$608	\$661	\$617
GM/farm	\$62 010	\$108 832	\$168 555	\$241 864
LLU	288 205	401 148	491 663	650 876
RoA	1.7%	1.8%	3.2%	5.4%
RoE	0.6%	-0.04%	1.9%	3.7%
OPM	8.5%	7.5%	11.5%	13.1%
Equity	86%	82%	83%	71%
ATO	20 c/\$	25c/\$	28 c/\$	41 c/\$

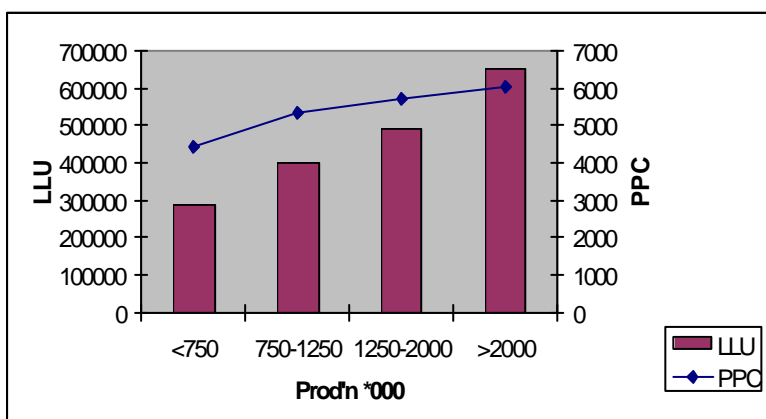
- Key profitability ratios – return on assets and operating profit margin improve to 5.4% and 13.1% respectively,
- Capital efficiency improves steadily. On the largest farms each \$1 of assets generates 41 cents in income.

Figure 5. The influence of farm size on return on assets and asset turnover ratio, 2001-2002.



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

Figure 6. The influence of farm size on production and litres per labour unit – 2001-2002.



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:

$$\text{ATO} = \frac{\text{Total dairy income (milk income + cattle trading profit + Inventory changes)}}{\text{asset value}}$$

The average value for cooperating farms in 2001 - 2002 was 24 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 2001, 6% of QDAS farms achieved the benchmark of 30 cents, this year 18 % 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

\$1 343 974 a slight increase on the previous year. A two-year comparison of the asset breakdown is shown in table 15 below.

Table 15. Land, plant and stock valuations for QDAS dairy farms, 2001 and 2002.

	2000-01	%	2001-02	%
Land & buildings	\$864 079	66.7	\$886 040	65.9
Stock	\$187 777	14.5	\$206 461	15.4
Plant	\$157 154	12.1	\$155 483	11.6
Other*	\$85 557	6.7	\$95 990	7.1
TOTAL	\$1 294 566		\$1 343 974	

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

Critical questions to address when reviewing capital efficiency are:

- How can revenue be increased economically, the KPI to measure asset turnover does not consider the cost structure,
- Are QDAS farms located in areas where land valuations are high, would relocation be an option,

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?

7. Calculating total production costs

Variable production costs when measured as a percentage of gross milk income have risen from 52% in 1998-99 to 65% this year. This percentage increase is largely due to the decline in gross milk income from 40 c/L in 1998-99 to 32.6 c/L this year. Variable costs on average rose by approximately 0.6 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. Table 18 below shows the items included in each calculation. The calculation of profit includes some non-cash items as expenses, eg 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 the top 33% of farms ranked on return on assets, this, together with the tabulated profit analysis format shown in Table 16, 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 16. Total production cost on QDAS farms - standard profit analysis technique, 2001-2002.

	Average farm	Top 1/3 of farms (Figure 6)
Average return c/L	37.1	38.6
Total variable cost c/L	21.0	19.3
Administration costs c/L	2.4	2.1
Paid labour costs c/L	2.9	2.4
Imputed labour c/L*	4.8	4.3
Depreciation costs c/L	2.2	1.7
Finance costs c/L	2.5	2.5
Total production costs c/L	35.8	32.3

* Imputed labour is calculated using the formula shown in Table 6.

Table 17. Cash production costs for QDAS farms - standard cash analysis technique 2001-2002.

	Average farm	Top 1/3 of farms (Figure 6)
Average return c/L	37.4	38.6
Total variable cost c/L	21.5	19.6
Administration costs c/L	2.4	2.1
Paid labour costs c/L	2.9	2.4
Principal + interest payments c/L	6.0	5.5
Living expenses c/L **	5.2	4.4
Total production costs c/L	38.0	34.0

* \$45 000 was used as the living expense.

** No capital expenditure is shown in this analysis.

Table 18. Input requirements for cash and profit determinations for the dairy enterprise.

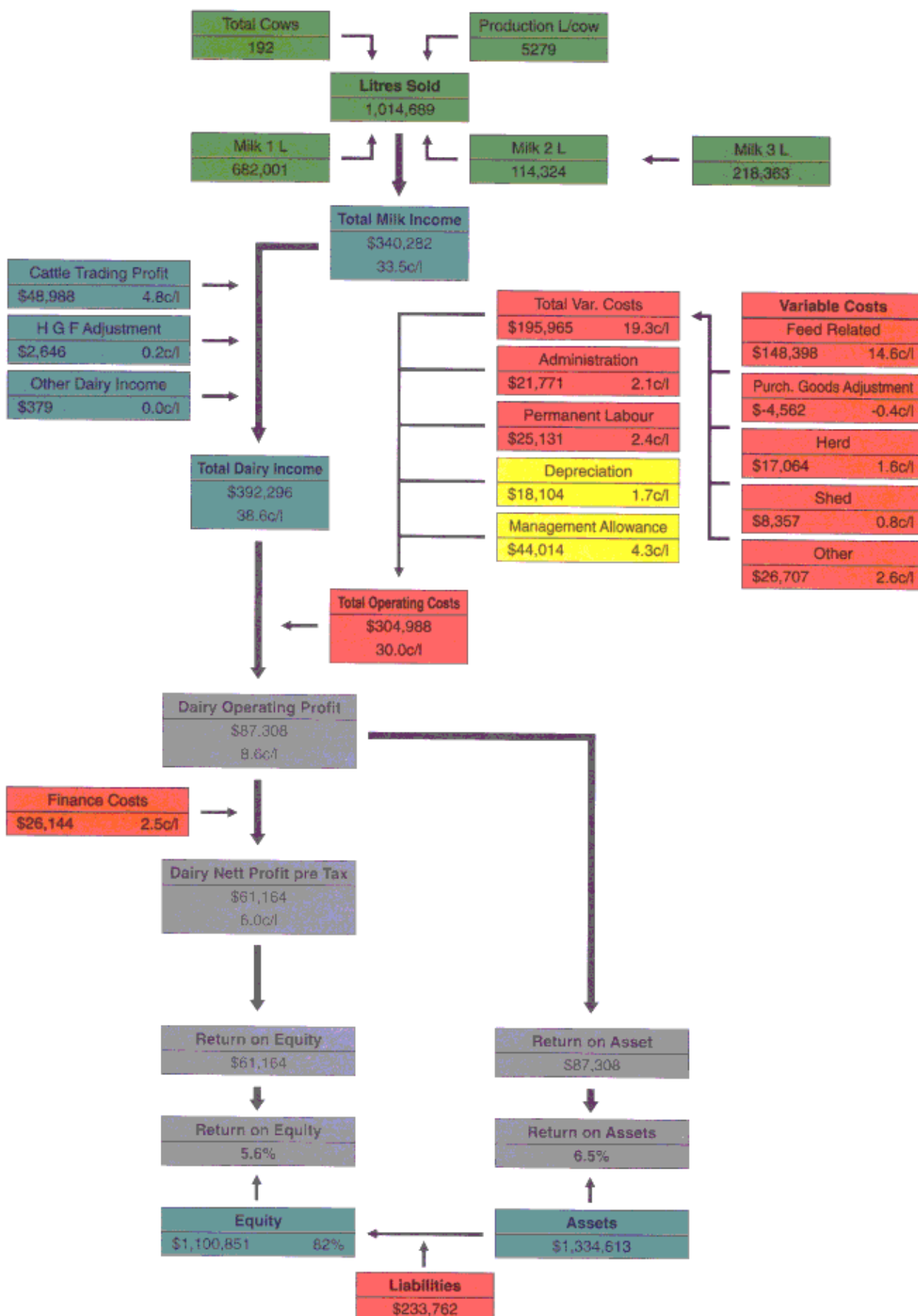
	<i>Cash</i>	<i>Your farm</i> <i>(\$, c/L,\$/cow)</i>	<i>Profit</i>	<i>Your farm</i> <i>(\$, c/L,\$/cow)</i>
INCOME				
<i>Milk income</i>	✓		✓	
<i>Cattle sales</i>	✓		✗	
<i>Cattle trading profit</i>	✗		✓	
<i>HGF Inventory adjustments</i>	✗		✓	
<i>Other dairy income</i>	✓		✓	
TOTAL INCOME				
COSTS				
<i>Variable costs</i>	✓		✓	
<i>Purchased feed adjustments</i>	✗		✓	
<i>Administration</i>	✓		✓	
<i>Paid labour</i>	✓		✓	
<i>Depreciation</i>	✗		✓	
<i>Hire purchase payments</i>	✓		✓	
<i>Lease payments</i>	✓		✓	
<i>Interest payments</i>	✓		✓	
<i>Principal payments</i>	✓		✗	
<i>Personal living costs</i>	✓		✗	
<i>Management allowance</i>	✗		✓	
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 17 and 18 represents the total operating costs for the average dairy farm and farms shown in figure 7. These are both cash and profit calculations.

Figure 7. Map of farm performance for top 33% of QDAS farms, 2001-02.



Administration

This 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 farms in QDAS was \$ 21 132 or 2.4 c/L. Administration is an expense that does not proportionately increase as farms expand production. Table 19 provides this example.

Table 19. Administration costs for farms with increasing annual production, 2002.

Annual production	<750 000 L	750 –1.25 mL	1.25-2.0 mL	>2.0 mL
Admin c/L	2.5	2.2	2.3	1.5
Admin \$	\$13 440	\$21 029	\$33 839	\$36 642

Finance Costs

To calculate return on equity it is essential to deduct interest and lease charges from the operating profit (EBIT). In 2002 finance costs accounted for 2.5 c/L on the average farm. Normally liquidity is measured by the ability to pay debts as they fall due. This is difficult to do in QDAS, the KPI's used to benchmark this business trait are;

Debt repayments expressed as a percentage of gross milk income – this is a cash calculation and includes both principal and interest payments. Gross milk income is used in the calculation in order to eliminate the fluctuations caused by the variability in cattle sales and trading accounts, and

Interest paid per milking cow.

Farms in a rapid expansion phase will require more debt capital (more highly geared or levered), hence the owner's equity measured as a percentage of the asset value will usually be lower at the commencement of the expansion phase. As the business matures, the proportion of repayments paid as interest reduces and the principal repayment increases.

The percentage of farms achieving the stated benchmarks for these measures was shown in table 2 and is also shown below.

Table 20. Percentage of farms achieving the Liquidity KPI's, 2001-2002.

KPI	Benchmark	% achieving the benchmark
% of GMI spent on debt payments	<20 % of GMI	84%
Interest paid per cow	<\$200/milker	90%

Equity

Equity calculated as a percentage is the KPI QDAS uses to express the business trait of solvency. In general dairy farms have substantial

equity. In 2001 - 2002 the average equity percent was calculated at 83%.

Operating profit margin

Operating profit margin (OPM) measures the operating profit (EBIT) as a percentage of the total revenue.

The calculations, operating profit margin and the return on assets, focus on profit without

regard to financing considerations. For farms represented in Figure 7 the operating profit margin is 22%. This means that for every one dollar generated in revenue, 22 cents is retained by the business.

8. Comparative analysis using QDAS diagnostics

8.1 Selecting your benchmark or target

To effectively use comparative analysis an understanding of the terms Benchmarking, Benchmarks, Key Performance Indicators and Targets is required.

KPI - are simply the critical factors that will make a difference to your business. Examples of KPI's were listed in Table 1.

Benchmarking is the process of comparing your result for a given KPI against a standard. This standard is called a **Benchmark**.

Comparison with what standard you ask?

Well the most commonly made comparison is with the average QDAS farm, or perhaps the results from the top 10% of the state. It could

even be against the farm or farmers down the road who appear to be good managers operating in a similar environment to you.

Targets are the levels you decide to achieve for a given KPI. Your targets do not have to be the same as benchmarks but they can be. All farms are different and some benchmark levels will not suit the farming region you are in. Benchmarks however, must be considered when setting a target as they give us an indication of what levels others are achieving, this is important if we want to be competitive and profitable in our industry.

How to use the KPI for margin feed related costs (MOFRC):

My Farm Result	\$550 /cow
Benchmark 1	\$700 /cow set by local farmers
Benchmark 2	\$800 /cow set by DPI in QDAS
My Target 2003	\$650 /cow
My Target 2004	\$725 /cow

What are the important messages from this example:

1. You have identified that MOFRC is a KPI and that it has a critical effect on the performance of your business,
2. You have measured your MOFRC (how do we improve if we have no idea what our current level is), and
3. You have set a target you want to achieve.
Note: that an upward trend is an important step if you are not presently competitive.

Setting the target is just the start, achieving it is the harder part. In this example MOFRC is the KPI and it could be influenced by sourcing cheaper feed inputs, seeking advice on ration formulation, or using a different grazing strategy to achieve higher production. In any case, there will need to be a change in current management practices, which could simply be to find out more information or ask a professional to help.

Rest assured that doing nothing will ensure the same result again, and will mean your

target is nothing more than a number on a page.

Some issues to consider when benchmarking and setting targets in this example:

- The farmer had the choice of the local and the QDAS benchmark. Due to the nature or locality of the farming region the QDAS benchmark could be difficult to achieve and a more realistic benchmark would be the one set by local farmers,
- The farmer set a two-year timeframe to achieve their target. The message here is set **achievable** targets - problems often take time to show up and will equally take time to correct, and

Regardless of what the benchmark is, or what target you set yourself, at the end of the day the most important thing is that your farm improves its financial position from year to year and you know why this improvement has occurred.

8.2 Using QDAS diagnostics

Using your own farm figures complete these selected diagnostics to measure the gap from your present performance to your own predetermined targets. This is the first important step in managing a change.

Liquidity – percentage of gross milk income spent servicing debt. Debt includes – leases and all repayments on loans including hire purchase payments. It will give a guide to the risk to your business if income is reduced or repayments increase due to new borrowings or interest rate changes.



Performance Diagnostic

My Result	QDAS Av.	Benchmark	My Target	% Variance from Benchmark/My Target
	11%	< 20%		**

** To calculate variance: $[(\text{My result} - \text{Benchmark}) / \text{Benchmark}] * 100$

Comments:

Profitability – two measures are included here.

RoA – this is shown on the profit map in dollars as dairy operating profit or return on assets. It is also known as the earnings before

interest and tax (EBIT). When used in the calculation below it is expressed as a percentage. It reflects your ability to generate a profit by using all the farm assets – land, plant and stock



Performance Diagnostic

My Result	QDAS Av.	Benchmark	My Target	% Variance from Benchmark/My Target
	2.4%	> 8%		**

** To calculate variance: $[(\text{My result} - \text{Benchmark}) / \text{Benchmark}] * 100$

Comments:

Operating profit margin – OPM. This is the percentage of revenue retained as profit after deducting the operating costs. Operating costs include – variable costs, administration,

depreciation and all labour paid & imputed. The operating margin is divided by the revenue and the result is expressed as a percentage



Performance Diagnostic

My Result	QDAS Av.	Benchmark	My Target	% Variance from Benchmark/ My Target
	9.6%	25%		**

** To calculate variance: $[(\text{My result} - \text{Benchmark}) / \text{Benchmark}] * 100$

Comments:

Solvency

Equity or net worth is the QDAS measure for solvency. How much of the total farm asset do you actually own?



Performance Diagnostic

My Result	QDAS Av.	Benchmark	My Target	% Variance from Benchmark/ My Target
	83%	>75 %		**

** To calculate variance: $[(\text{My result} - \text{Benchmark}) / \text{Benchmark}] * 100$

Comments:

Efficiency – Three efficiency measures are calculated for this gap analysis.

Margin over feed related cost – expressed as a \$ value per cow.



Performance Diagnostic

My Result	QDAS Av.	Benchmark	My Target	% Variance from Benchmark/My Target
	NQ \$835 SEQ, CQ, NNSW \$891	NQ \$1 000 SEQ, CQ NNSW \$1 2000		**

** To calculate variance: $[(\text{My result} - \text{Benchmark}) / \text{Benchmark}] * 100$

Comments:

Gross margin – Expressed as a \$ value per cow.



Performance Diagnostic

My Result	QDAS Av.	Benchmark	My Target	% Variance from Benchmark/My Target
	NQ \$554 SEQ, CQ, NNSW \$559	NQ \$600 SEQ, CQ, NNSW \$800		**

** To calculate variance: $[(\text{My result} - \text{Benchmark}) / \text{Benchmark}] * 100$

Comments:

Asset turnover ratio or ATO

ATO measures how efficiently your farm assets generate revenue. Revenue includes both the milk and cattle trading profit. Revenue is divided by value of the asset; the

result can be expressed either as a ratio or as a percentage. Large farms generated 41 cents for each dollar investe



Performance Diagnostic

My Result	QDAS Av.	Benchmark	My Target	% Variance from Benchmark/ My Target
	24 cents/\$	>30 cents/\$		**

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

Comments:

Other physical efficiency measures

Production per cow - litres

Your result	QDAS Benchmark	Your target	Variance from target
	>6 000L		

Comment:

Litres per labour unit

Your result	QDAS Benchmark	Your target	Variance from target
	Farm prodn <750 000 L 400 000 L		
	Farm prodn >750 000 L 500 000 L		

Comment:

9. 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. Contain variable production costs, with an emphasis on optimising rather than minimising expenditure,
2. Grow 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. Avoid 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.

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)
- Set preliminary goals and objectives for the modified enterprise. (Goals and objectives will give you direction in planning.)
- Test scenarios (There will be more than one way in which your goals will be 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.)
- 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 overdraft 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.)
- 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?)
- Complete a loan schedule/debt management plan. (This is where 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.)
- 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.
- 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 in 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)

10. Appendices

10.1 Group annual report – South-east Queensland, 2001 - 2002

Queensland Dairy Accounting Scheme

Prepared by: Geoff Hetherington

08/01/2003

GROUP CASH GROSS MARGIN

SQ

Period Ending: 6/2002

INCOME		Cents/Litre	Dollars/Cow	Total \$ Earned
Milk 1	(583584 L)	34.0	1,226.2	198,857
Milk 2	(67346 L)	26.2	108.9	17,662
Milk 3	(202221 L)	25.3	316.0	51,251
Milk Bonuses/Incentives/Rebates		1.2	66.4	10,776
Other Dairy Income		0.0	1.9	316
Milk Income	(853151 L)	32.6	1,719.6	278,863
Stock Sales - Dairy		3.2	169.9	27,567
Stock Sales - Other		0.3	17.4	2,836
Produce Sales		0.2	10.7	1,736
Other Income		0.9	50.8	8,251
Non-Milk Income		4.7	249.0	40,392
Total Farm Income		37.4	1,968.6	319,256

PRODUCTION COSTS		Cents/Litre	Dollars/Cow	% Milk Income	Total \$ Spent
Purchased Feeds		10.3	542.2	31.5	87,929
Fertiliser		1.7	93.7	5.4	15,204
Fuel & Oil		1.0	57.5	3.3	9,331
Seed		0.6	35.7	2.0	5,791
Irrigation Costs		0.9	49.6	2.8	8,055
Other Feed Costs		1.2	63.7	3.7	10,343
Feed Related Costs		16.0	842.6	49.0	136,655
Heifer Feeds		0.4	21.3	1.2	3,467
Animal Health		0.7	41.0	2.3	6,658
Herd Improvement		0.4	25.1	1.4	4,079
Herd Costs		1.6	87.5	5.0	14,205
Dairy Shed Costs - Electricity		0.4	24.4	1.4	3,969
Dairy Shed Costs - Chemicals		0.4	22.6	1.3	3,672
Shed Costs		0.8	47.1	2.7	7,642
Cartage		0.5	30.9	1.7	5,014
Levies		0.3	17.3	1.0	2,815
Repairs & Maintenance		1.8	99.6	5.7	16,152
Sundry Variable Costs		0.2	14.2	0.8	2,317
Other Variable Costs		3.0	162.1	9.4	26,299
Total Variable Costs		21.6	1,139.5	66.2	184,802

GROSS MARGINS - Milk Only		11.0	580.0	33.7	94,061
Whole Farm		15.7	829.1[†]	48.2	134,453
Permanent Wages		3.1	163.6	9.5	26,530
Personal Drawings Etc		1.7	92.8	5.4	15,065

Labour Inputs	Areas (ha)	Stock	Production
Permanent Unpaid 1.4	Milking Cow 98	Milking Cows 137	Fed To Calves (l) 8410 1%
Permanent Paid 0.8	Effective Dairy 181	Dry Cows 24	Protein Total (kg) 26805 3.14%
Casual Paid 0.1	Agistment 15.9	Heifers 15+ 41	Butterfat Total (kg) 33466 3.93%
	Winter Irrigation 33	Heifers <15 56	Total Solids (kg) 60272
	Summer Irrigation 32	Adult Equivalents 212	Litres / Cow 5260
			Total Solids / Cow (kg) 371
			Protein / Cow (kg) 165
			Butterfat / Cow (kg) 206

Farms in report: 132

QDAS 2001-2002

10.2 Group annual report – Central Queensland, 2001 - 2002

Queensland Dairy Accounting Scheme

Prepared by: Geoff Hetherington

08/01/2003

GROUP CASH GROSS MARGIN

CQ

Period Ending: 6/2002

INCOME		Cents/Litre	Dollars/Cow	Total \$ Earned
Milk 1	(528093 L)	41.4	1,406.4	218,944
Milk 2	(13810 L)	31.4	27.8	4,342
Milk 3	(200465 L)	23.3	300.5	46,786
Milk Bonuses/Incentives/Rebates		1.1	55.1	8,579
Other Dairy Income		0.0	0.0	0
Milk Income	(742368 L)	37.5	1,790.0	278,652
Stock Sales - Dairy		3.3	159.6	24,853
Stock Sales - Other		0.0	0.0	0
Produce Sales		0.2	12.6	1,969
Other Income		2.2	105.2	16,380
Non-Milk Income		5.8	277.5	43,202
Total Farm Income		43.3	2,067.5	321,855

PRODUCTION COSTS		Cents/Litre	Dollars/Cow	% Milk Income	Total \$ Spent
Purchased Feeds		10.3	494.5	27.6	76,986
Fertiliser		2.0	95.6	5.3	14,885
Fuel & Oil		1.5	73.7	4.1	11,477
Seed		0.5	26.0	1.4	4,062
Irrigation Costs		1.7	85.7	4.7	13,351
Other Feed Costs		0.6	29.3	1.6	4,565
Feed Related Costs		16.8	805.1	44.9	125,327
Heifer Feeds		0.3	17.4	0.9	2,712
Animal Health		0.9	44.0	2.4	6,863
Herd Improvement		0.5	24.7	1.3	3,846
Herd Costs		1.8	86.2	4.8	13,422
Dairy Shed Costs - Electricity		0.4	22.5	1.2	3,509
Dairy Shed Costs - Chemicals		0.4	23.1	1.2	3,597
Shed Costs		0.9	45.6	2.5	7,106
Cartage		2.0	96.5	5.3	15,033
Levies		0.3	16.9	0.9	2,637
Repairs & Maintenance		2.3	109.9	6.1	17,111
Sundry Variable Costs		0.2	14.0	0.7	2,183
Other Variable Costs		4.9	237.4	13.2	36,965
Total Variable Costs		24.6	1,174.4	65.6	182,821

GROSS MARGINS - Milk Only		12.9	615.6	34.3	95,831
Whole Farm		18.7	893.1	49.8	139,034
Permanent Wages		4.0	195.2	10.9	30,395
Personal Drawings Etc		3.3	160.8	8.9	25,041

Labour Inputs	Areas (ha)	Stock	Production
Permanent Unpaid 1.1	Milking Cow 94	Milking Cows 127	Fed To Calves (l) 6077 1%
Permanent Paid 1.6	Effective Dairy 194	Dry Cows 28	Protein Total (kg) 22929 3.08%
Casual Paid 0.0	Agistment 3.1	Heifers 15+ 49	Butterfat Total (kg) 28387 3.83%
	Winter Irrigation 36	Heifers <15 74	Total Solids (kg) 51317
	Summer Irrigation 31	Adult Equivalents 217	Litres / Cow 4768
			Total Solids / Cow (kg) 329
			Protein / Cow (kg) 147
			Butterfat / Cow (kg) 182

Farms in report: 9

QDAS 2001-2002

10.3 Group annual report North Queensland, 2001 - 2002

Queensland Dairy Accounting Scheme

Prepared by: Geoff Hetherington

08/01/2003

GROUP CASH GROSS MARGIN

NQ

Period Ending: 6/2002

INCOME		Cents/Litre	Dollars/Cow	Total \$ Earned
Milk 1	(230074 L)	36.5	408.4	84,118
Milk 2	(299981 L)	24.7	360.3	74,205
Milk 3	(494660 L)	31.5	757.5	156,007
Milk Bonuses/Incentives/Rebates		0.9	45.7	9,421
Other Dairy Income		0.0	0.1	38
Milk Income	(1024715 L)	31.5	1,572.3	323,790
Stock Sales - Dairy		1.5	77.6	15,982
Stock Sales - Other		0.0	4.2	881
Produce Sales		0.1	8.5	1,759
Other Income		1.8	94.4	19,454
Non-Milk Income		3.7	184.9	38,078
Total Farm Income		35.3	1,757.2	361,868

PRODUCTION COSTS		Cents/Litre	Dollars/Cow	% Milk Income	Total \$ Spent
Purchased Feeds		9.7	484.2	30.7	99,719
Fertiliser		3.3	169.0	10.7	34,806
Fuel & Oil		0.7	34.9	2.2	7,191
Seed		0.2	14.4	0.9	2,971
Irrigation Costs		0.3	17.3	1.1	3,569
Other Feed Costs		0.3	17.1	1.0	3,533
Feed Related Costs		14.8	737.1	46.8	151,792
Heifer Feeds		1.0	51.3	3.2	10,567
Animal Health		1.0	54.6	3.4	11,250
Herd Improvement		0.6	33.4	2.1	6,886
Herd Costs		2.8	139.3	8.8	28,704
Dairy Shed Costs - Electricity		0.4	23.5	1.4	4,854
Dairy Shed Costs - Chemicals		0.4	21.6	1.3	4,466
Shed Costs		0.9	45.2	2.8	9,321
Cartage		0.2	13.0	0.8	2,696
Levies		0.3	15.4	0.9	3,173
Repairs & Maintenance		1.1	58.9	3.7	12,144
Sundry Variable Costs		0.1	9.3	0.5	1,930
Other Variable Costs		1.9	96.8	6.1	19,943
Total Variable Costs		20.4	1,018.6	64.7	209,762

GROSS MARGINS - Milk Only		11.1	553.7	35.2	114,028
Whole Farm		14.8	738.6 ^h	46.9	152,106

Permanent Wages	1.6	84.4	5.3	17,398
Personal Drawings Etc	4.1	207.5 ⁱ	13.1	42,731

Labour Inputs	Areas (ha)	Stock	Production
Permanent Unpaid 1.7	Milking Cow 93	Milking Cows 169	Fed To Calves (l) 6949 1%
Permanent Paid 0.4	Effective Dairy 163	Dry Cows 36	Protein Total (kg) 31556 3.07%
Casual Paid 0.0	Agistment 19.9	Heifers 15+ 41	Butterfat Total (kg) 38902 3.80%
	Winter Irrigation 11	Heifers <15 51	Total Solids (kg) 70459
	Summer Irrigation 1	Adult Equivalents 255	Litres / Cow 4976
			Total Solids / Cow (kg) 342
			Protein / Cow (kg) 153
			Butterfat / Cow (kg) 188

Farms in report: 27

QDAS 2001-2002

10.4

10.4 Group annual report Northern New South Wales, 2001 - 2002

Queensland Dairy Accounting Scheme

Prepared by: Geoff Hetherington

08/01/2003

GROUP CASH GROSS MARGIN

NNSW

Period Ending: 6/2002

INCOME		Cents/Litre	Dollars/Cow	Total \$ Earned
Milk 1	(747907 L)	31.2	1,387.2	233,778
Milk 2	(109359 L)	36.2	235.3	39,654
Milk 3	(0 L)	**	0.0	0
Milk Bonuses/Incentives/Rebates		2.4	126.4	21,315
Other Dairy Income		0.0	0.1	17
Milk Income	(857266 L)	34.3	1,749.0	294,765
Stock Sales - Dairy		2.6	133.9	22,573
Stock Sales - Other		0.1	8.1	1,375
Produce Sales		0.2	12.6	2,123
Other Income		0.7	39.2	6,614
Non-Milk Income		3.8	193.9	32,687
Total Farm Income		38.1	1,943.0	327,453

PRODUCTION COSTS		Cents/Litre	Dollars/Cow	% Milk Income	Total \$ Spent
Purchased Feeds		9.7	497.9	28.4	83,918
Fertiliser		2.8	142.9	8.1	24,084
Fuel & Oil		0.8	41.7	2.3	7,039
Seed		1.0	54.6	3.1	9,216
Irrigation Costs		0.4	22.0	1.2	3,722
Other Feed Costs		0.9	49.2	2.8	8,299
Feed Related Costs		15.8	808.6	46.2	136,282
Heifer Feeds		0.7	39.8	2.2	6,715
Animal Health		0.4	24.1	1.3	4,067
Herd Improvement		0.6	32.9	1.8	5,554
Herd Costs		1.9	96.9	5.5	16,337
Dairy Shed Costs - Electricity		0.5	27.4	1.5	4,624
Dairy Shed Costs - Chemicals		0.5	25.5	1.4	4,305
Shed Costs		1.0	52.9	3.0	8,929
Cartage		0.4	25.1	1.4	4,241
Levies		0.3	15.5	0.8	2,621
Repairs & Maintenance		1.5	76.4	4.3	12,884
Sundry Variable Costs		0.1	9.1	0.5	1,541
Other Variable Costs		2.4	126.3	7.2	21,288
Total Variable Costs		21.3	1,084.9	62.0	182,838

GROSS MARGINS - Milk Only		13.0	664.1	37.9	111,926
Whole Farm		16.8	858.1	49.0	144,614

Permanent Wages	2.8	144.4	8.2	24,347
Personal Drawings Etc	3.8	194.5	11.1	32,790

Labour Inputs	Areas (ha)	Stock	Production
Permanent Unpaid 1.3	Milking Cow 73	Milking Cows 144	Fed To Calves (l) 15047 2%
Permanent Paid 0.6	Effective Dairy 137	Dry Cows 24	Protein Total (kg) 27350 3.19%
Casual Paid 0.2	Agistment 10.2	Heifers 15+ 51	Butterfat Total (kg) 33120 3.90%
	Winter Irrigation 29	Heifers <15 54	Total Solids (kg) 60471
	Summer Irrigation 27	Adult Equivalents 226	Litres / Cow 5086
			Total Solids / Cow (kg) 358
			Protein / Cow (kg) 162
			Butterfat / Cow (kg) 196

Farms in report: 40

QDAS 2001-2002