Balancing dairy production and profits in northern Australia

QDAS

Queensland Dairy Accounting Scheme - 2024

Dairy Australia

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QDAS Financial and production trends – 2024

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Introduction

This report contains physical and financial data from 45 farms and includes data from the South Queensland (incorporating the Southeast-coastal and Darling Downs regions), Central Queensland and North Queensland dairy regions (Figure 1).

Milk production in Queensland increased from 279 million litres in 2022-23 to 282 million litres (3.4% of the national milk supply) in 2023-24 (Table 1). This trend was consistent across all states in Australia in the 2023-24 period. Figure 2 shows Queensland's monthly milk production for 2022-23 and 2023-24.

Fluctuating seasonal conditions were experienced across most Queensland dairy regions. Most areas experienced a dry winter and spring followed by a hot, wet and humid summer and autumn. Farms in North Queensland experienced protracted periods of wet weather impacting production and financial performance. Despite these weather challenges, Queensland milk production increased for the first time in 14 years, and profitability remained high for the fourth consecutive year.

A thorough analysis of Queensland dairy businesses can be undertaken by reviewing performance using four business traits – liquidity, profitability, solvency and efficiency. These traits cover both the financial and physical aspects of the business.

Section 1 of this report presents a summary of the key findings. Three business traits – profitability, solvency and efficiency were used to measure farm performance. The results for these traits are presented using 15 key performance indicators.

Section 2 displays the distribution of the Queensland Dairy Accounting Scheme (QDAS) data for cow numbers, land area, labour, production, income, costs and profitability.

Section 3 details the characteristics of the most profitable farms in QDAS. Production per cow, the effect of herd size and milk from home grown feed are examined.

Section 4 details the amounts fed to milking cows in each of the regional production systems.

Regional production system statistics are summarised in Section 5 and are then examined individually in Sections 6 to 9.

Appendices contain summary reports for all QDAS farms, the top 25% farms and each regional production system. The appendices also contain a list of definitions for the business traits and key performance indicators used in QDAS.

Figure 1. The location of dairy farms in Queensland

Table 1. Annual milk production for Queensland (2020-21 to 2023-24)

Year	Annual production
2020-21	309 ML
2021-22	299 ML
2022-23	279 ML
2023-24	282 ML

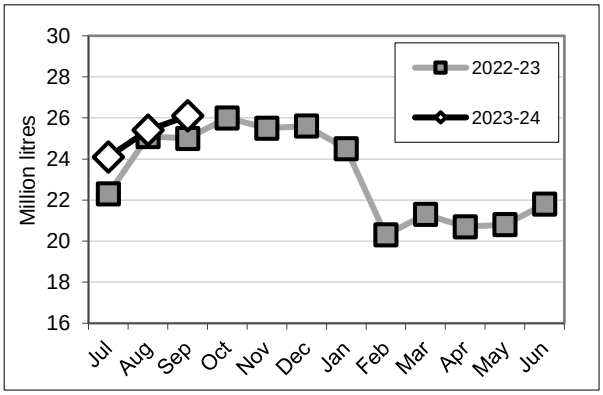

Figure 2. Queensland monthly milk production (2022-23 and 2023-24)

Objectives

The objectives of this publication are to:

- Provide QDAS participants with a summary of physical and financial data from each regional production system. This, together with their own farm reports, will give dairy businesses 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, governments, suppliers or other agents.

About QDAS

QDAS was established in 1976 to improve the understanding of business principles among advisors and dairy farmers by providing farm management accounting and analysis. Originally the basis of the analysis was an examination of the annual variable costs. The data was used to answer questions such as, "Is the production of an extra unit of milk profitable?" QDAS has evolved to now examine the business traits of profitability, solvency and efficiency but still maintains a similar aim to help dairy farmers make informed decisions based on business information.

Officers of the Department of Primary Industries Queensland supervise the collection and processing of data between August and November each year.

Farmer participation in QDAS is voluntary and free. Results and trends need to be interpreted carefully as the average of QDAS farms have larger herds and produce more milk per farm than the Queensland average. There is still a broad range of herd sizes represented from 80 cows to over 1000 cows.

QDAS data is used by DairyBase, Dairy Australia's web-based farm comparative analysis tool, as their verified farm data for Queensland. Using DairyBase, farmers can calculate their financial performance and compare this to averages for Queensland (QDAS data) or verified data from other states. For more information go to: www.dairybase.com.au.

Acknowledgements

The authors wish to thank all cooperating farmers who supplied data and provided valuable feedback in discussion groups held during late 2024.

The authors also acknowledge the support and efforts of Howard Smith for his assistance with data collection.

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1. 2023-24 Key findings

Fifteen Key Performance Indicators (KPI) are used to highlight the results for profitability, solvency and efficiency. Table 2 shows these results for 2023-24 and the preceding three years. Further to this is the calculation of these KPI for the top 25% of farms. These top farms have been identified as the farms with the highest Earnings Before Interest & Tax (EBIT) measured in dollars per cow.

EBIT highlights the amount of profit retained after paying all expenses except finance costs and taxes. These expenses include the non-cash items of depreciation and an allowance for the manager's time and skill (called imputed labour). Cattle trading profit and inventory adjustments are also included.

Table 2 has been presented to show the general industry trend. Participation in QDAS is voluntary and as such there is a variation in farm scale of production. If using this data to compare with an individual farm situation, consideration needs to be given to the individual's position in the business lifecycle, personal goals, farming system and asset base.

Table 2. Financial and performance ratios for QDAS farms (2020-21 to 2023-24)

Business traits and indicators [(1)]	**Top 25%**	**QDAS average**	**Past QDAS averages**		
Profitability	**2023-24**	**2023-24**	**2022-23**	**2021-22**	**2020-21**
Return on assets managed (%)	7.4	3.6	4.2	4.0	4.1
Return on equity (%)	10.0	3.6	4.4	4.4	4.5
EBIT margin (%)	24.5	14.5	16.3	16.4	15.8
EBIT ($/cow)	1,772	895	983	861	787
Solvency					
Equity (%)	79	84	82	78	77
Debt to equity ratio	0.26	0.20	0.22	0.28	0.30
Efficiency – Capital/Finance					
Asset turnover ratio	0.40	0.31	0.32	0.30	0.32
Total liabilities per cow ($)	3,702	3,210	3,502	3,846	3,638
Interest paid/cow ($)	141	170	167	125	125
Efficiency – Productivity					
Feed related costs (c/L)	44.8	46.0	46.0	36.0	35.8
Margin over feed related costs (c/L)	49.8	46.5	42.6	36.6	34.3
Margin over feed related costs ($/cow)	3,561	2,883	2,646	2,287	2,171
Farm operating cash surplus (c/L)	27.8	25.4	23.8	23.2	21.8
Efficiency – Physical					
Production per cow (L)	7,156	6,202	6,205	6,254	6,330
Litres per labour unit					
- On farms <1.5 m L	425,150	365,185	379,992	371,426	381,284
- On farms >1.5 m L	425,411	430,383	420,727	446,724	456,011

(1) The definition of each indicator and how it is calculated can be found in Appendix 10.10

Profitability

Below average rainfall prevailed for the Winter and Spring of 2023 followed by a hot, humid wet Summer and continued wet conditions all through Autumn 2024 in some regions. While the dry Winter and Spring resulted in increased irrigation costs, most farmers were working with full water allocations, so crop and pasture growth was not limited. The fine, sunny weather meant very few days off feed and these favourable conditions for the cows resulted in increased milk production on most farms. Consequently, Queensland milk production was up significantly in the last half of 2023 versus the same period in 2022 (Figure 2). Unfortunately, this trend did not continue into the first half of 2024 with hot, wet, humid conditions affecting milk production over Summer and Autumn. Weather conditions in North Queensland were particularly challenging for milk production with prolonged wet weather for the first half of 2024 severely impacting pasture growth and animal health. Despite these challenges, average profitability remained high for a fourth consecutive year. Average EBIT was $895 per cow, down from $983 per cow in 2022-23. Return on assets managed also decreased from 4.2% in 2022-23 to 3.6% in 2023-24 (Table 2).

The decrease in profitability is due to a combination of marginal increases in variable costs with the most significant contribution from non-cash changes to feed inventory. Total operating costs increased 2.8 c/L up to 84.1 c/L in 2023/2024. Milk price increased again to 92.5 c/L, up 3.9 c/L from 2022-23. This offset lower cattle trading profits resulting in a gross farm income of 98.5 c/L, up 1.4 c/L from 2022-23.

Purchased feed costs and total feed related costs were relatively consistent year-on-year, with the later remaining the same at 46.0 c/L in 2023-24. Despite the higher income for milk and consistent feed costs, EBIT reduced by 1.4 c/L to 14.4c/L in 2023-24 due to several marginally higher variable costs.

Detailed profit and cash flow reports can be found in Section 10 Appendices.

Production per cow

Table 2 shows that production per cow has remained consistent in 2023-24, averaging 6,202 litres compared to 6,205 in 2022-23. The top 25% farms (sorted by EBIT per cow) achieved a production per cow of 7,156 litres in 2023-24, 954 litres higher than the QDAS average.

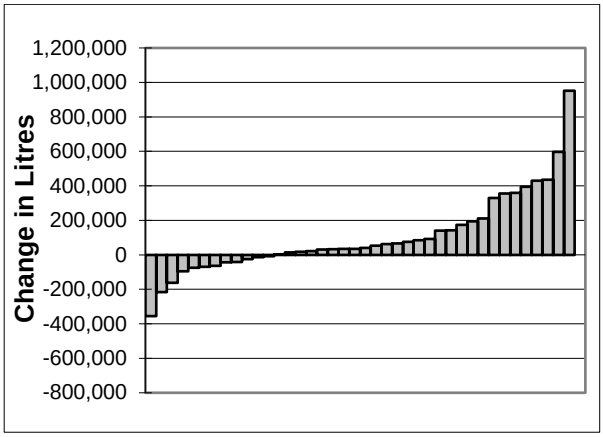


Figure 3. Change in milk production on individual farms between 2022-23 and 2023-24.

Production and prices

The average production of the QDAS farms was 1,646,343 litres in 2023-24, decreasing from the 2022-23 average of 1,775,778. This was a result of smaller farm sizes in the current QDAS participants compared to the previous reporting period, bringing the average production down rather than a drop in production from continuing QDAS participants. In fact, the opposite occurred on the 40 continuing farms (year on year) as shown in Figure 3 On these 40 continuing farms the average increase in annual milk production per farm was 105,292 L

While the average milk production on all 45 QDAS farms was 1,646,343 litres, the production of the top 25% farms (sorted by EBIT per cow) was 2,554,538 litres. This is the result of milking 92 more cows producing 954 litres more milk per cow.

QDAS average milk income increased by 3.9 c/L to 92.5 c/L. The increase was observed across 36 of the 45 participating farms in 2023-24 (Figure 4). Figure 4 shows the changes in average milk income per litre between 2022-23 and 2023-24 for individual QDAS farms.

Profitability Translates to Production

In 2023-2024, it is encouraging to see the consistent profitability on most farms shown in the last four years of QDAS results translate into milk production growth in the Queensland industry for the first time since 2009-10. The average EBIT per cow from 2017-18 to 2019-20 was $253, whereas over the last four years farms

were able to achieve an average EBIT per cow of $880. Feed related costs are higher in 2023-24 than 2018-19 when EBIT was as low as $113 per cow. Therefore, the higher EBIT in recent years is driven by both increases in milk income and cattle trading profit (in 2020-2021 and 2021-22).

One of the effects of the three years of low profitability is that equity dropped from 80% in 2017-18 to 76% in 2019-20, however this has increased over the past four years up to 84% in 2023-24.

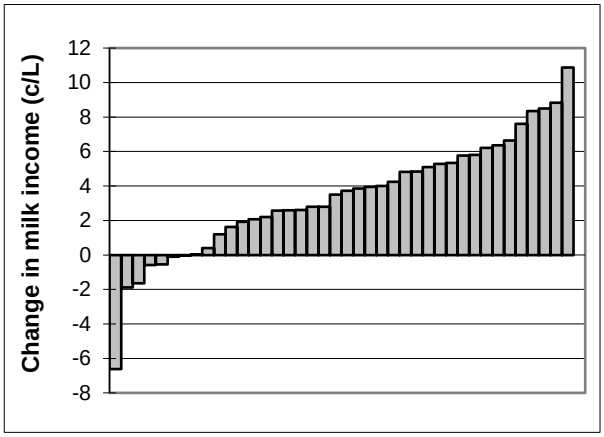


Figure 4. Change in average milk income on individual farms between 2022-23 and 2023-24.

Production costs

Table 2 shows that feed related costs remained consistent at 46.0 c/L in 2023-24. Higher grain and concentrate expenditure were offset by less purchased forage while lower fertiliser prices more than compensated for increased irrigation costs reducing overall home-grown feed costs. All other home-grown feed costs remained relatively stable.

The top 25% of farms' (sorted by EBIT per cow) feed related costs were 44.8 c/L, 1.2 c/L less than the average of all farms. However, feed related costs were $3,206 per cow in the top 25% of farms, compared to $2,850 on the average QDAS farm. Therefore, the top 25% group were able to generate higher profits through higher milk production per cow resulting in margin over feed related costs being 3.3 c/L higher. The top 25% of farms also had lower total variable costs, 2.1 c/L less than the average. These reduced costs of production and higher margin over feed related costs resulted in an operating cash surplus of 27.8 c/L for the top 25% of farms compared to 25.4 c/L for the average.

Table 3 shows the prices of major farm inputs. These prices are sourced in southern Queensland and vary depending on contractual arrangements.

Table 4 shows the cash income and cash costs of production for QDAS farms for 2023-24. Full details of QDAS average cash income and cash costs can be found in Appendix 10.1.

Table 3. Indicative prices per tonne of major farm inputs (June 2021 to June 2024)

Farm input	June 2021	June 2022	June 2023	June 2024
Concentrates				
Sorghum	$300	$360	$410	$355
Barley	$325	$425	$425	$405
Wheat	$340	$440	$420	$405
Soybean meal	$778	$1025	$1035	$860
Canola meal	$540	$670	$690	$585
14% dairy pellet	$520	$620	$635	$600
Fertiliser				
Urea	$740	$1200	$940	$800
Diesel				
Bowser price	$1.39	$2.31	$2.08	$1.88

Table 4. Cash analysis of the costs of production (2023-24)

Farm income and costs	c/L
Farm income	
Milk income (Net)	92.5
Other farm income	5.3
Total farm income	**97.8**
Production costs	
Purchased feed	35.0
Home grown feed	11.0
Total feed related costs	46.0
Herd costs	4.3
Shed costs	2.6
Employed labour	10.7
Repairs & maintenance	4.6
Other overheads	4.2
Farm working expenses	**72.4**
Farm operating cash surplus	**25.4**
Interest, principal, lease	10.6
Capital purchases (unfinanced)	4.9
Net cash flow before tax & drawings	**9.9**

Labour

Average employed labour costs for all QDAS farms was $176,465 for 2.5 paid labour units. This equates to 10.7 c/L, which is 0.9 c/L lower than in 2022-23. As farms milk more cows there are opportunities to utilise labour more effectively. Table 5 shows that farms producing less than 0.75 ML (122 cows) do so at 290,545 litres per labour unit, whereas farms producing more than 2.0 ML (513 cows) do so at 424,277 litres per labour unit.

Table 5 also shows the increase in labour used, both paid and unpaid (owner/operator), as production increases. It is not surprising that the greater than 2.0 ML group has the largest use of paid labour at 6.5 full time equivalents (FTE).

Repairs and other overheads

The QDAS average repairs and maintenance costs are $75,960 (4.6 c/L). Table 5 shows that repairs and maintenance are 5.3 c/L for the farms that produce less than 0.75 ML and 4.7 c/L for the farms that produce more than 2.0 ML of milk.

The QDAS average for other overhead costs is $69,220 (4.2 c/L). While total overhead costs increase as production increases, the costs get proportionately lower per litre. Table 5 shows other overhead costs falling from 7.2 c/L to 3.4 c/L as production increases. Other overhead costs include rates, insurance, registration, office expenses, accounting, phone and internet.

Table 5. Analysis of overhead costs (2023-2024)

Overhead costs	<0.75 ML	0.75 – 1.25 ML	1.25 – 2.0 ML	>2.0 ML
Milk production (L)	569,044	967,338	1,485,077	3,738,448
Cows (milkers + dry)	119	172	259	521
Overheads				
Repairs & Maintenance ($)	29,907	47,585	62,385	176,333
Repairs & Maintenance (c/L)	5.3	4.9	4.2	4.7
Other overheads ($)	40,830	55,110	63,229	123,018
Other overheads (c/L)	7.2	5.7	4.3	3.3
Labour				
Unpaid labour (FTE)	1.3	1.6	1.6	2.3
Paid labour (FTE)	0.9	0.8	2.2	6.5
Paid labour cost ($)	53,912	68,140	156,219	456,039
Litres per labour unit	261,629	392,647	389,604	422,955

2. The distribution of QDAS cooperating farms

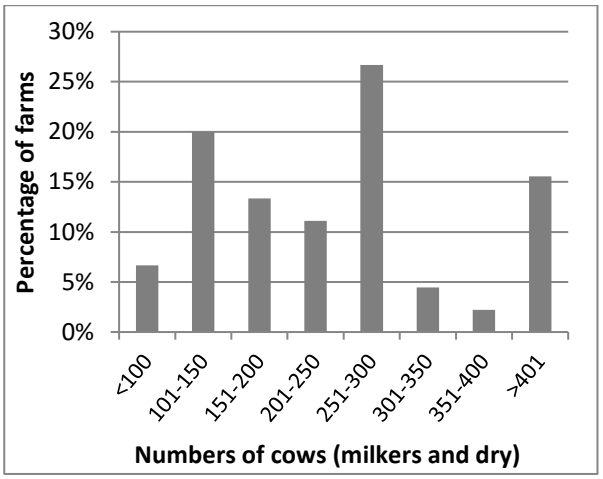


Figure 5. The distribution of QDAS farms by cow numbers

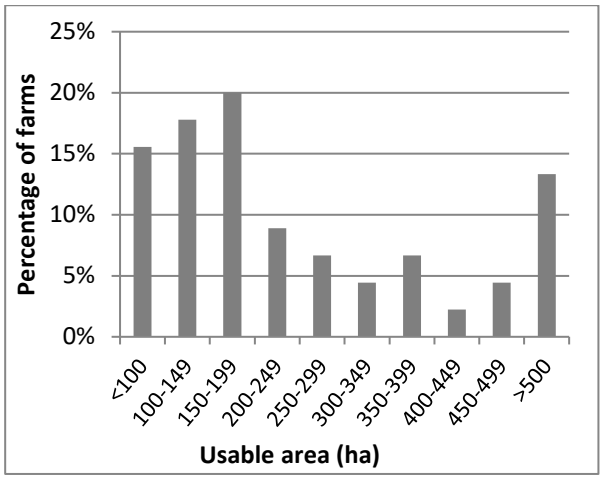


Figure 8. The distribution of QDAS farms by usable area

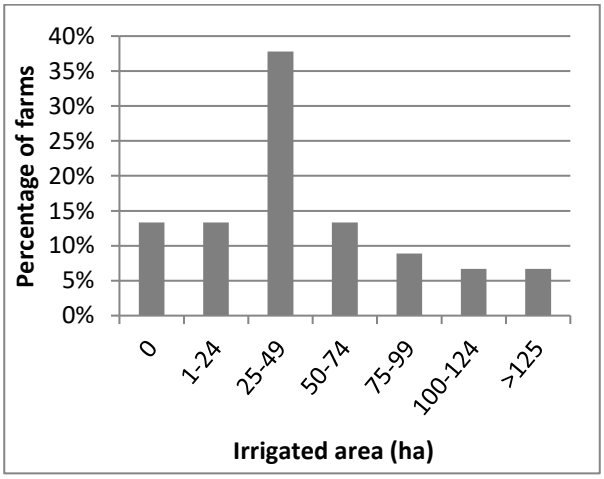


Figure 6. The distribution of QDAS farms by irrigated area

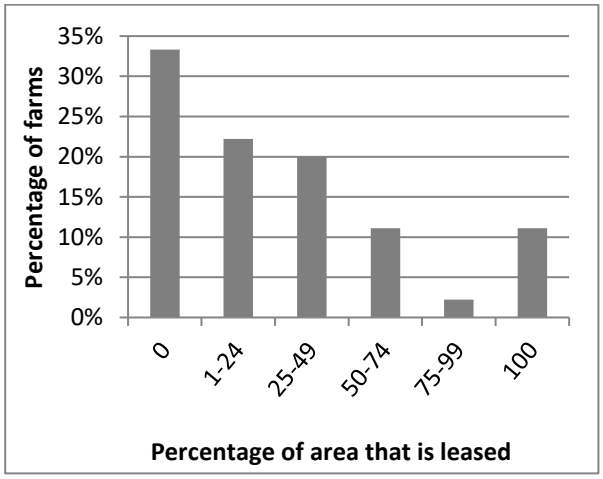


Figure 9. The distribution of QDAS farms by the percentage of total area that is leased

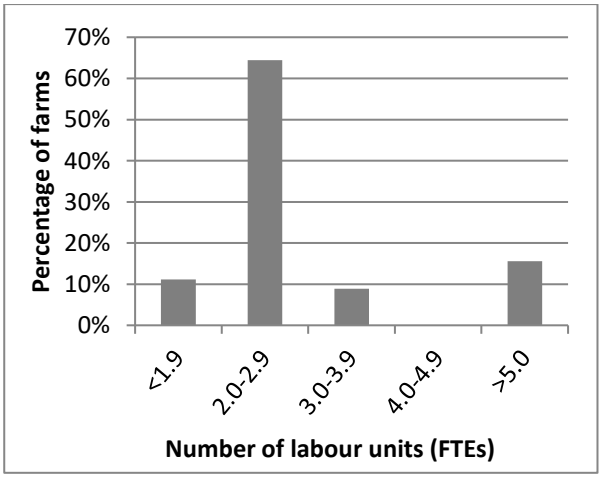


Figure 7. The distribution of QDAS farms by number of labour units

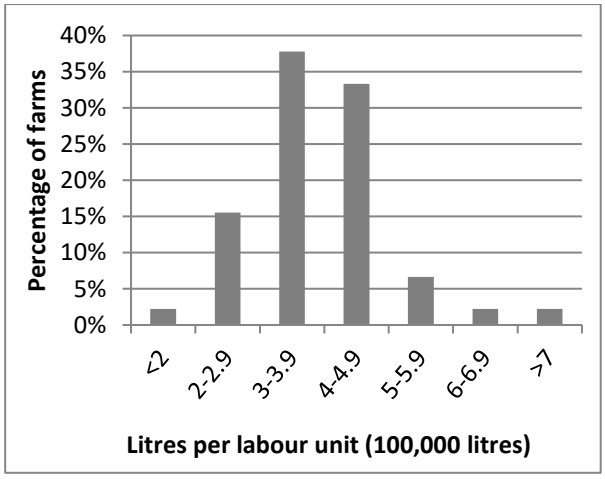


Figure 10. The distribution of QDAS farms by litres per labour unit

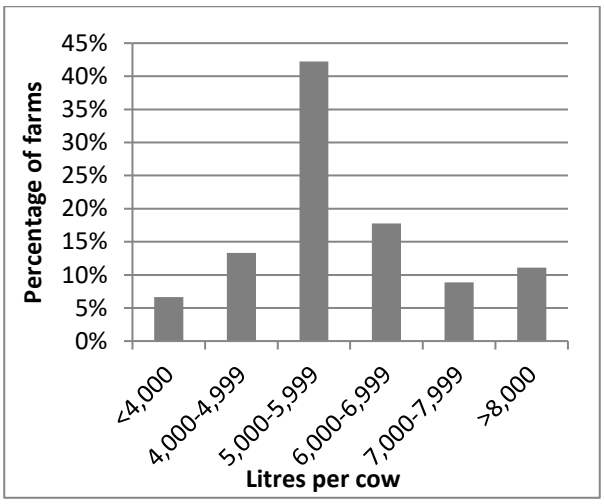


Figure 11. The distribution of QDAS farms by production per cow

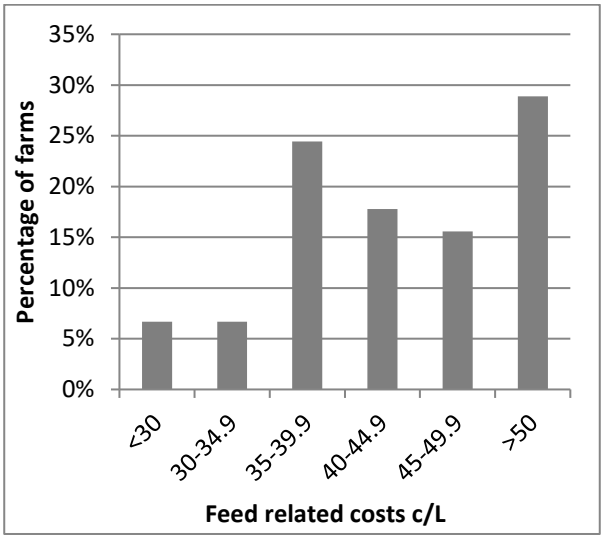


Figure 12. The distribution of QDAS farms by feed related costs

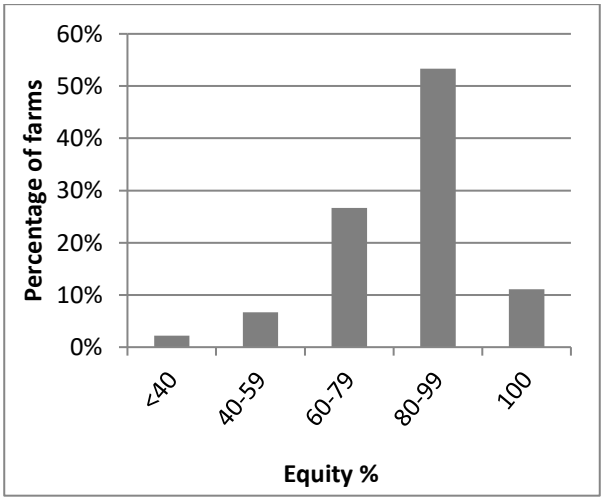


Figure 13. The distribution of QDAS farms by equity percentage

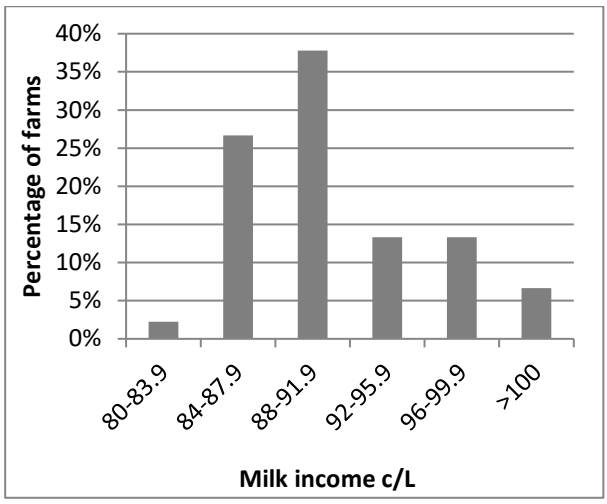


Figure 14. The distribution of QDAS farms by average milk income

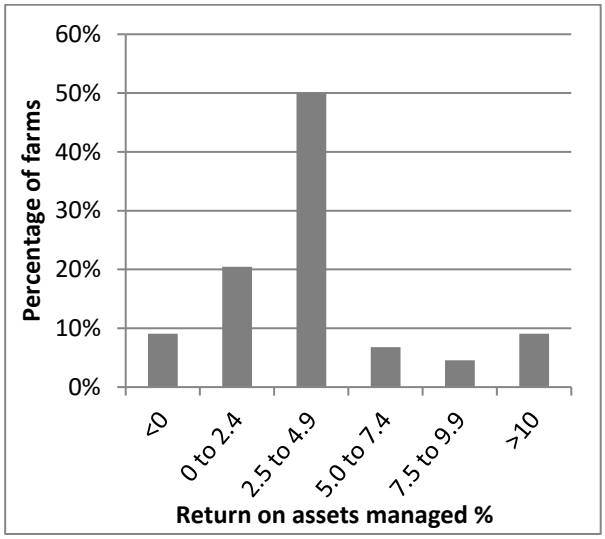


Figure 15. The distribution of QDAS farms by return on assets managed

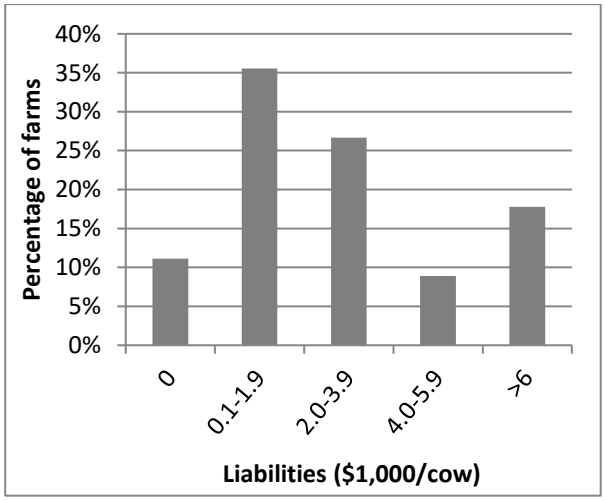


Figure 16. The distribution of QDAS farms by liabilities per cow

3. Factors affecting profitability

To investigate the factors affecting profitability, the QDAS results of the top 25% group (sorted by EBIT per cow) are compared with the results of the remaining 75% of farms (Table 6).

The higher EBIT per cow achieved by the top 25% group is directly linked to the following profit drivers:

- Higher production per cow. The top 25% group produced 1,421 litres per cow more than the remaining 75% group.
- Selling more litres of milk. The top 25% group sold 1,352,515 more litres of milk than the remaining 75% group. This is driven by production per cow.
- Better labour efficiency. The top 25% group produces 44,351 litres more milk per labour unit than the other group.
- Higher margin over feed related costs. The top 25% group had MOFRC 5.3 c/L higher than the other group.
- Lower farm working expenses. The top 25% group had farm working expenses 2.9 c/L lower than the other group.

Table 6. KPI for top 25% and the remaining 75% of farms (2023-24)

Profitability factors	Top 25%	Remaining 75%
Physical traits		
Cows (milkers + dry)	357	236
Farm production (L)	2,554,538	1,352,515
Efficiency - Physical		
Production per cow (L)	7,156	5,735
Milk from home grown feed (L/day)	10.3	9.0
Cows per labour unit	59	66
Litres per labour unit	420,973	376,622
Profit Analysis		
EBIT ($/cow)	1,772	630
Cash Analysis		
Milk income (c/L)	94.6	91.2
Livestock sales (c/L)	2.2	4.7
Feed related costs (c/L)	44.8	46.7
Farm working expenses (c/L)	70.6	73.5
Margin over FRC (c/L)	49.8	44.5

Production per cow

QDAS reports highlight that farms with higher production per cow mostly have higher profitability. Table 7 shows that EBIT per cow is highest in the > 7,000 litres group, followed by cows in the 6,000 to 7,000 litres group. In the remaining lower production groups, EBIT drops to below $500/cow.

The margin over feed related costs per litre is the highest in the <5,000 litres group at 54.1 c/L and lowest in the 5,000 to 6,000 litres group at 43.9 c/L. However, margin over feed related costs per cow is highest in the >7,000 litres group at $3,880 and was lowest at $2,325 in the <5,000 group.

Table 7. KPI for four production groups (L per cow) in Queensland (2023-24)

Farm production	<5,000	5,000 - 6,000	6,000 - 7,000	>7,000
Farm milk production (L)	923,388	1,248,865	1,961,507	2,928,271
Cows (milkers + dry)	211	228	312	358
Production per cow (L)	4,345	5,457	6,441	8,452
Milk income (c/L)	92.5	90.0	93.0	91.3
Margin over FRC (c/L)	54.1	43.9	48.7	45.9
Margin over FRC ($/cow)	2,325	2,380	3,153	3,880
EBIT ($/cow)	483	394	991	1,745

Herd size

An important profit driver is the scale of operation. Increasing the scale of a farm's operation can lead to efficiencies in overheads and the use of labour. Table 8 shows the effect that increasing herd size has on profitability indicators.

In previous years QDAS reports have shown a steady increase in EBIT per cow as the herd size increases. This trend continued in 2023-24 with the >350 cow group having the highest EBIT per cow at $1,243 and the <150 cow group the lowest EBIT at $553 per cow.

For many years in QDAS, margin over feed related costs per cow increased as herd size increases. However, over the past few years this has not always been the case. This margin over feed related costs per cow was similar for herd sizes up to 350 cows, with a jump up to $3,247/cow in the largest herds.

The farms with more than 350 cows (milkers and dry) had the highest production per cow at 7,007 litres. However, production per cow was similar across the other three groups, with the farms with 150-250 cows having the second highest production per cow at 6,038 L.

Therefore, the increase in EBIT with increasing herd size is driven by a combination of production per cow, margin over feed related costs and efficiencies in overheads and operating costs gained with scale.

Table 8. KPI for four herd size groups (number of milking and dry cows) in Queensland (2023-24)

Profitability indicators	< 150	150 - 250	250 - 350	> 350
Farm milk production (L)	712,959	969,407	1,612,534	3,761,408
Cows (milkers + dry)	121	196	285	550
Production per cow (L)	5,841	6,038	5,676	7,007
Margin over feed related costs ($/cow)	2,729	2,914	2,544	3,247
Cows per labour unit	60	65	77	60
Return on assets managed (%)	1.9	3.2	2.9	6.2
EBIT ($/cow)	553	755	811	1,243

4. Feed analysis

Feed related costs require significant attention by dairy farmers, especially in a subtropical environment. In 2023-24 feed related costs represented 50% of milk income on the QDAS average farm. On south Queensland total mixed ration (TMR) farms it represents 56% of milk income. This is a large decrease from 2019-20 where feed related costs represented 74% of milk income on south Queensland TMR farms.

QDAS allows farmers to investigate their feeding system and compare their feed inputs and milk responses with other farmers from the same regional production system. Table 9 shows the average amount of various feeds offered to milking cows over the 2023-24 year. This information is displayed as pie charts in Appendix 10.9.

Milk responses are allocated to each concentrate and conserved forage fed to milking cows to determine the milk produced from these feed sources. The remaining milk produced is then assumed to be as a result of grazing and the kilograms of dry matter (DM) required to be grazed to produce this milk is calculated.

The calculations of intake (kg DM/cow/day) and milk production (L/cow/day) in Table 9 assume a 300 day lactation.

Grain used on-farm is predominately wheat, barley and maize. Custom made pellets are utilised on farms with no grain milling equipment.

Protein is fed mainly as canola meal and soybean meal on partial mixed ration (PMR) and TMR farms. Whole cottonseed is a popular protein supplement on north Queensland farms when it is available at a reasonable price.

Molasses is a significant feed, especially in north Queensland.

Other concentrates include brewer's grain, bread, dough, flour and several other by-products.

Good quality silages include maize, cereals, legumes and ryegrass. Medium quality silages include forage sorghum and tropical grasses.

Good quality hays are predominately lucerne and cereals. Medium quality hays are mainly forage sorghum, millet and tropical grasses. Straw is also an important fibre source on some farms.

Table 9. Amounts fed to milking cows in each of the regional production systems (2023-24)

Feed type	South Qld Grazing	South Qld PMR	South Qld TMR	North Qld All	All Qld
Grazing (kg DM/cow/day)	11.0	6.1	0.9	8.6	6.8
Grain and pellets (kg DM/cow/day)	6.4	5.1	6.8	5.0	5.6
Protein (kg DM/cow/day)	0.5	1.9	3.3	0.9	1.6
Molasses (kg DM/cow/day)	0.0	0.1	0.1	1.1	0.3
Other concentrates (kg DM/cow/day)	0.0	1.4	2.5	0.0	1.0
Silage good quality (kg DM/cow/day)	0.7	3.2	6.2	1.8	2.8
Silage medium quality (kg DM/cow/day)	0.0	0.5	1.3	0.0	0.4
Hay good quality (kg DM/cow/day)	0.2	0.8	1.2	0.0	0.6
Hay medium quality & straw (kg DM/cow/day)	0.2	0.8	0.8	0.1	0.6
Total intake (kg DM/cow/day)	18.9	19.9	23.0	17.4	19.7
Production (L/cow/day)	19.0	21.0	27.1	16.7	20.7
Forage to concentrate ratio	64:36	57:43	45:55	60:40	57:43

5. Production system analysis

QDAS data collection concentrates on gaining a "snap-shot" into different production systems in the regions. The three systems are:

Grazing (GRA) – Milk production principally from grazing, with grain and concentrates fed in the dairy. Less than 15% of dry matter intake is from hay or silage.

Partial Mixed Ration (PMR) – Milk production from a combination of grazing, grain, concentrates, hay and silage. More than 15% of dry matter intake is from hay or silage and at least 10% of dry matter intake is from grazing.

Total Mixed Ration (TMR) – Milk production principally from a silage based mixed ration fed on a pad. Less than 10% of dry matter intake is from grazing.

Table 10 shows the distribution of the participating QDAS farms among the regional production systems.

Table 11 presents a summary of the KPI for each regional production system. There are several points of interest.

- Milk income varies from 88.1c/L in north Queensland to 94.7 c/L on south Queensland PMR farms.
- Production per cow increases as the feeding system intensifies. South Queensland grazing farms averaged 5,696 L/cow, PMR farms averaged 6,294 L/cow and TMR farms averaged 8,137 L/cow.
- South Queensland TMR farms achieved the highest EBIT of $1,527/cow. Both other production systems in South Queensland achieved an EBIT of at least $850/cow, however the average EBIT in north Queensland farms was $392/cow.

This data should not be interpreted as a definitive guide for changing a farming system. It should be noted that even if a regional production system is shown here to be more profitable, the skills, infrastructure and resources required on alternative systems are quite different. Farmers contemplating a change should seek help with the phasing and sizing of that change.

Table 10. The number of farms collected in each regional production system (2023-24)

Region	GRA	PMR	TMR	Total
North Queensland	7	3	0	10
Central Queensland	0	1	0	1
South Queensland	13	15	6	34
Total	20	19	6	45

Table 11. KPI for farming systems (2023-24)

KPI	South Qld Grazing	South Qld PMR	South Qld TMR	North Qld All farms
Cows (milkers + dry)	182	319	329	243
Farm production (L)	1,038,808	2,006,520	2,678,454	1,217,309
Production per cow (L)	5,696	6,294	8,137	5,014
Milk income (c/L)	91.8	94.7	92.9	88.1
Feed related costs (c/L)	45.1	45.9	49.0	41.5
Total variable costs (c/L)	50.8	52.7	54.6	51.1
Margin over feed related costs (c/L)	46.7	48.7	43.9	46.6
EBIT ($/cow)	859	990	1,527	392
Return on assets managed (%)	3.2	4.2	5.8	1.6

6. South Queensland - Grazing

South Queensland grazing farms in the QDAS sample are found around Gympie, Sunshine Coast, Brisbane Valley and Darling Downs. These grazing farms either have high and reliable rainfall or significant areas of reliable irrigation. Permanent summer pastures are mainly kikuyu, panics and setaria, with irrigation areas planted to ryegrass, clover and lucerne. Kikuyu pastures are also oversown to winter forages with grazing crops of forage sorghum and oats also grown. Grain and pellets are readily available as supplements, fed at milking time.

The farms in this group have invested $17,942 per cow in their operation, of which 71% is in the land value. Equity levels are high, averaging at 88%, and a return on assets managed of 3.2% was achieved.

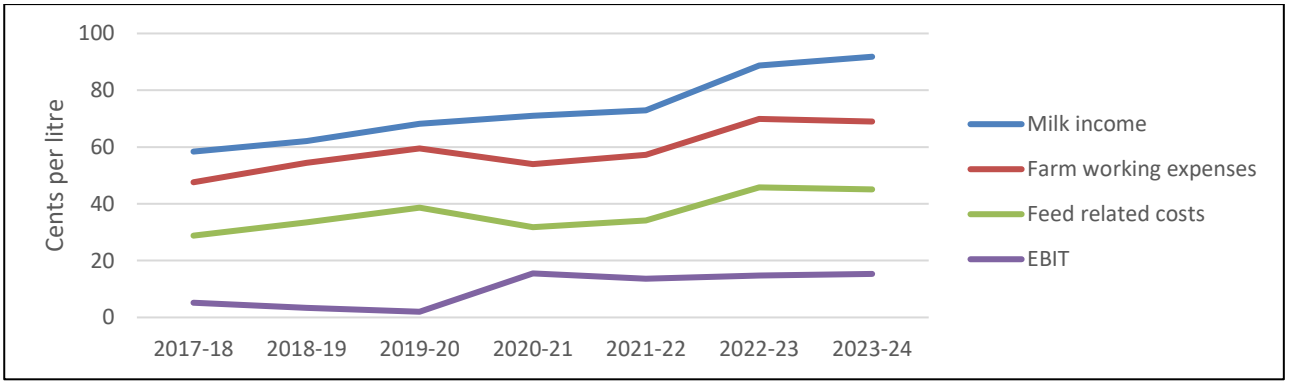
Figure 17 shows the data trends for south Queensland grazing farms between 2017-18 and 2023-24. There are several points of interest:

- Milk income has increased by 57% from 58.4 c/L in 2017-18 to 91.8 c/L in 2023-24.
- Feed related costs have increased by 57% from 28.8 c/L in 2017-18 to 45.1 c/L in 2023-24.
- Farm working expenses have increased by 47% from 47.6 c/L in 2017-18 to 69.0 c/L in 2023-24.
- EBIT has increased by 197% from 5.2 c/L in 2017-18 to 15.1 c/L in 2023-24 but was as low as 2.0 c/L in 2019-20.

Table 12. Statistics for South Queensland grazing farms – 13 farms (2023-24)

Resources	
Cows (milkers + dry)	182
Heifers >1 year old	75
Heifers <1 year old	60
Total dairy herd	321
Milking cow area (ha)	75
Usable area (ha)	179
Labour units	2.6
Assets and Liabilities	
Land, buildings, irrigation ($)	2,329,095
Livestock ($)	457,554
Machinery ($)	299,035
Other ($)	185,688
TOTAL ($)	3,271,373
Liabilities ($)	396,363
Equity (%)	88
Investment per cow ($)	17,942
Debt per cow ($)	2,173
Productivity	
Milk production (L)	1,038,808
Production per cow (L)	5,696
Financial	
Milk income (c/L)	91.8
Feed related costs (c/L)	45.1
Total variable costs (c/L)	50.8
Margin over feed related costs (c/L)	46.7
EBIT ($/cow)	859
Return on assets managed (%)	3.2

Figure 17. Trends for South Queensland grazing farms (2017-18 to 2023-24)



7. South Queensland - PMR

South Queensland PMR farms in the QDAS sample are found around Gympie, Sunshine Coast, Beaudesert, Moreton, Brisbane Valley and Darling Downs. They have the ability to grow similar forages to the prior group, but supplement their milkers with silage made from maize, sorghum, lucerne and/or ryegrass.

These farms have a higher investment in stock and plant. This production system usually results in higher production per cow than that of grazing farms.

The farms in this group have invested $18,704 per cow in their operation with 70% tied to the land. Equity levels are high, averaging at 87% and a return on assets managed of 4.2% was achieved.

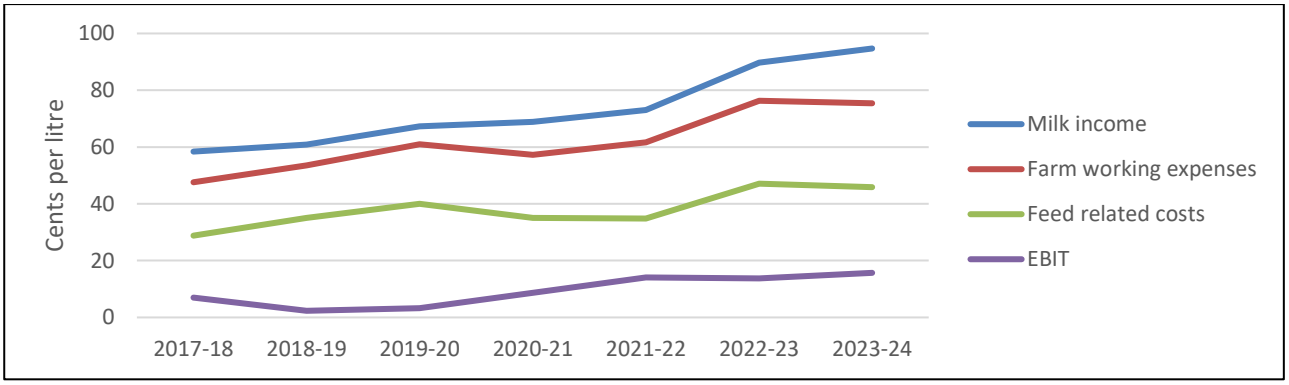
Figure 18 shows the data trends for south Queensland PMR farms between 2017-18 and 2023-24. There are several points of interest:

- Milk income has increased by 62% from 58.4 c/L in 2017-18 to 94.7 c/L in 2023-24.
- Feed related costs have increased by 58% from 28.8 c/L in 2017-18 to 45.9 c/L in 2023-24.
- Farm working expenses have increased by 58% from 47.6 c/L in 2017-18 to 75.4 c/L in 2023-24.
- EBIT has increased by 124% from 7.0 c/L in 2017-18 to 15.7 c/L in 2023-24 but was as low as 2.3 c/L in 2018-19.

Table 13. Statistics for South Queensland PMR farms – 15 farms (2023-24)

Resources	
Cows (milkers + dry)	319
Heifers >1 year old	122
Heifers <1 year old	93
Total dairy herd	537
Milking cow area (ha)	131
Usable area (ha)	299
Labour units	5.5
Assets and Liabilities	
Land & buildings ($)	4,187,651
Livestock ($)	787,315
Machinery ($)	590,952
Other ($)	397,019
TOTAL ($)	5,962,938
Liabilities ($)	800,358
Equity (%)	87
Investment per cow ($)	18,704
Debt per cow ($)	2,511
Productivity	
Milk production (L)	2,006,520
Production per cow (L)	6,294
Financial	
Milk income (c/L)	94.7
Feed related costs (c/L)	45.9
Total variable costs (c/L)	52.7
Margin over feed related costs (c/L)	48.7
EBIT ($/cow)	990
Return on assets managed (%)	4.2

Figure 18. Trends for South Queensland PMR farms (2017-18 to 2023-24)



8. South Queensland - TMR

South Queensland TMR farms in the QDAS sample are found in the Moreton, Darling Downs and South Burnett and are mostly dryland farms with large cropping areas. Most farmers concentrate on growing large volumes of summer forages for silage. Winter crops are opportunistic in years when sub-soil moisture is available.

These farms have commodity sheds. Grain, by-products and protein meals are purchased in bulk and forward contracting is common. They are ideally situated in proximity to the grain growing areas of Queensland which reduces freight costs.

They have invested $25,351 per cow in their operation with 66% tied to the land. With the large investment in infrastructure that is required, they have a high debt per cow of $5,728 and equity of 77%, the lowest equity of all groups. A return on assets managed of 5.8% was achieved.

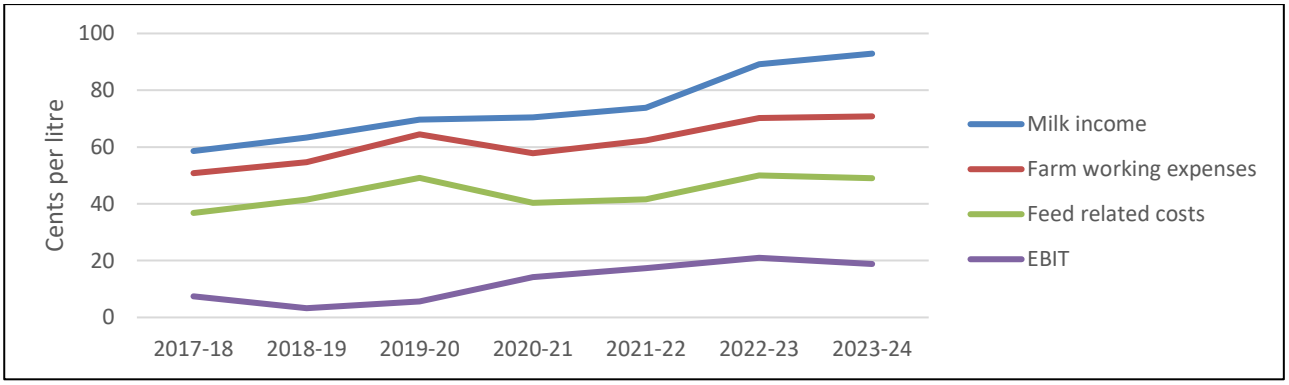
Figure 19 shows the data trends for south Queensland TMR between 2017-18 and 2023-24. There are several points of interest:

- Milk income has increased by 59% from 58.6 c/L in 2017-18 to 92.9 c/L in 2023-24.
- Feed related costs have increased by 33% from 36.8 c/L in 2017-18 to 49.0 c/L in 2023-24.
- Farm working expenses have increased by 38% from 50.8 c/L in 2017-18 to 70.8 c/L in 2023-24.
- EBIT has increased by 154% from 7.4 c/L in 2017-18 to 18.8 c/L in 2023-24 but was as low as 3.3 c/L in 2018-19.

Table 14. Statistics for South Queensland TMR farms – 6 farms (2023-24)

Resources	
Cows (milkers + dry)	329
Heifers >1 year old	187
Heifers <1 year old	164
Total dairy herd	690
Milking cow area (ha)	4
Usable area (ha)	433
Labour units	5.5
Assets and Liabilities	
Land & buildings ($)	5,534,527
Livestock ($)	1,097,087
Machinery ($)	1,258,495
Other ($)	454,699
TOTAL ($)	8,344,808
Liabilities ($)	1,885,392
Equity (%)	77
Investment per cow ($)	25,351
Debt per cow ($)	5,728
Productivity	
Milk production (L)	2,678,454
Production per cow (L)	8,137
Financial	
Milk income (c/L)	92.9
Feed related costs (c/L)	49.0
Total variable costs (c/L)	54.6
Margin over feed related costs (c/L)	43.9
EBIT ($/cow)	1,527
Return on assets managed (%)	5.8

Figure 19. Trends for South Queensland TMR farms (2017-18 to 2023-24)



9. North Queensland – Grazing and PMR

These farms are located in tropical North Queensland around the areas of Malanda, Millaa Millaa and Ravenshoe.

Grazing with grain, pellets or molasses fed in the dairy is the predominant production system in the tropics. This means the upper limit for daily grain intake is 6-8 kg. Some farms feed silage, hay and whole cottonseed to fill feed gaps.

The farms in this group have invested $18,656 per cow in their operation, of which 75% is in the land value. Equity levels varied across the sample, with the average being 81%, and a return on assets managed of 1.8% was recorded.

Figure 20 shows the data trends for north Queensland farms between 2017-18 and 2023-24.

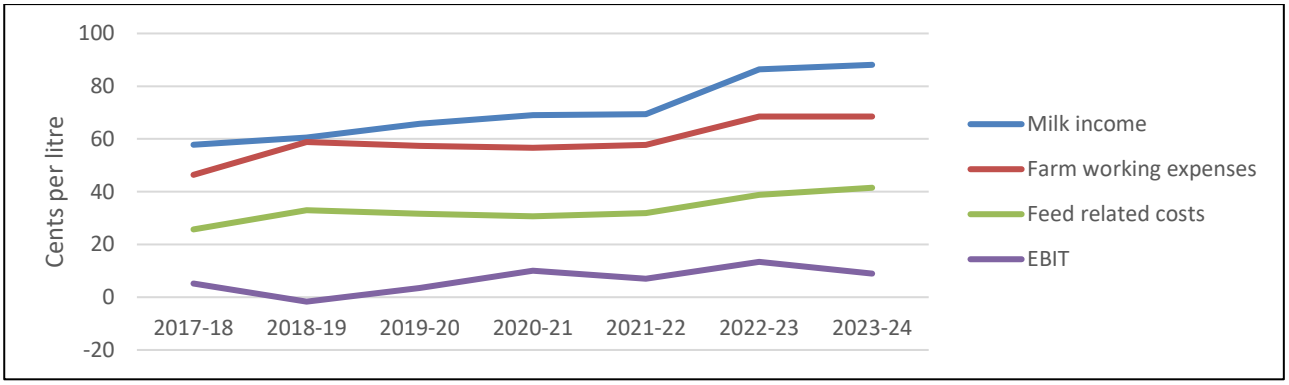
There are several points of interest:

- Milk income has increased by 52% from 57.8 c/L in 2017-18 to 88.1 c/L in 2023-24.
- Feed related costs have increased by 61% from of 25.7 c/L in 2017-18 to 41.5 c/L in 2023-24.
- Farm working expenses have increased by 48% from 46.4 c/L in 2017-18 to 68.5 c/L in 2023-24.
- EBIT has increased by 71% from 5.2 c/L in 2017-18 to 8.9 c/L in 2023-24 but was as low as -1.7 c/L in 2018-19.

Table 15. Statistics for North Queensland grazing and PMR farms – 10 farms (2023-24)

Resources	
Cows (milkers + dry)	243
Heifers >1 year old	64
Heifers <1 year old	87
Total dairy herd	398
Milking cow area (ha)	93
Usable area (ha)	204
Labour units	3.5
Assets and Liabilities	
Land & buildings ($)	3,390,633
Livestock ($)	657,394
Machinery ($)	280,529
Other ($)	201,221
TOTAL ($)	4,529,777
Liabilities ($)	875,833
Equity (%)	81
Investment per cow ($)	18,683
Debt per cow ($)	3,607
Productivity	
Milk production (L)	1,217,309
Production per cow (L)	5,014
Financial	
Milk income (c/L)	88.1
Feed related costs (c/L)	41.5
Total variable costs (c/L)	51.1
Margin over feed related costs (c/L)	46.6
EBIT ($/cow)	392
Return on assets managed (%)	1.6

Figure 20. Trends for North Queensland farms (2017-18 to 2023-24)



10. Appendices

10.1 Group cash flow – All 45 QDAS farms (2023-24)

Group cash flow

All Farms 2023/2024

Farm Cash Income	c/L	$/cow	$/kg MS		Total $ Earned
Milk Income (net)	**92.5**	**5,733.7**	**12.48**		**1,522,100**
Livestock sales less purchases (dairy)	3.7	232.2	0.51		61,648
Feed sales	0.2	13.3	0.03		3,542
Other farm cash income	1.4	85.0	0.19		22,574
Total Farm Cash Income	**97.8**	**6,064.3**	**13.20**		**1,609,864**
Farm Cash Costs	**c/L**	**$/cow**	**$/kg MS**	**% Milk receipts**	**Total $ Spent**
Purchased grain, concentrates	29.0	1,796.1	3.91	31.3	476,808
Purchased fodder, silage, hay	3.9	240.1	0.52	4.2	63,743
Other purchased feed	2.2	136.2	0.30	2.4	36,156
Total Purchased Feed	**35.0**	**2,172.4**	**4.73**	**37.9**	**576,707**
Fertiliser	3.3	202.8	0.44	3.5	53,842
Fuel & oil	2.1	127.6	0.28	2.2	33,872
Pasture & crop costs	2.1	129.5	0.28	2.3	34,386
Irrigation costs	1.6	99.5	0.22	1.7	26,420
Hay and silage making costs	1.5	91.2	0.20	1.6	24,218
Agistment	0.2	10.0	0.02	0.2	2,659
Other feed costs	0.3	17.0	0.04	0.3	4,511
Feed Related Costs	**46.0**	**2,850.1**	6.20	**49.7**	**756,615**
Margin Over Feed Related Costs	**46.5**	**2,883.5**	**6.28**	**50.3**	**765,484**
Animal health	2.3	142.3	0.31	2.5	37,781
Herd improvement	1.0	62.9	0.14	1.1	16,697
Calf rearing	1.0	59.9	0.13	1.0	15,910
Herd Costs	**4.3**	**265.1**	**0.58**	**4.6**	**70,388**
Dairy shed - power	1.3	83.4	0.18	1.5	22,151
Dairy shed - supplies	1.3	77.7	0.17	1.4	20,621
Shed Costs	**2.6**	**161.1**	**0.35**	**2.8**	**42,772**
Total Variable Costs	**52.8**	**3,276.4**	**7.13**	**57.1**	**869,776**
Employed labour costs	10.7	664.7	1.45	11.6	176,465
Repairs & maintenance	4.6	286.1	0.62	5.0	75,960
Other overhead costs	4.2	260.7	0.57	4.5	69,220
Total Cash Overhead Costs	**19.5**	**1,211.6**	**2.64**	**21.1**	**321,644**
Total Farm Working Expenses	**72.4**	**4,488.0**	**9.77**	**78.3**	**1,191,420**
Farm Operating Cash Surplus	**25.4**	**1,576.3**	**3.43**	**27.5**	**418,443**
Interest costs	2.7	170.5	0.37	3.0	45,274
Loan principal repayments	5.6	345.0	0.75	6.0	91,586
Land lease costs	2.3	144.7	0.31	2.5	38,404
Other capital purchases (unfinanced)	4.9	304.5	0.66	5.3	80,825
Net Cashflow Before Tax & Drawings	**9.9**	**611.6**	**1.33**	**10.7**	**162,355**

Labour inputs		**Stock**		**Production**		
Paid labour	2.5	Cows (milking and dry)	265	Total litres sold		1,646,343
Unpaid labour	1.7	Total herd	512	Litres / cow		6,202
Total labour units	4.2	**Areas**		Butterfat (kg)	4.06%	66,768
Litres / Labour unit	392,298	Useable area (ha)	263	Protein (kg)	3.35%	55,180
Cows / labour unit	63	Irrigation area (ha)	52	Milk solids / cow (kg)		459

Farms in this report:	45

10.2 Group cash flow – Top 25% of farms (2023-24)

Group cash flow

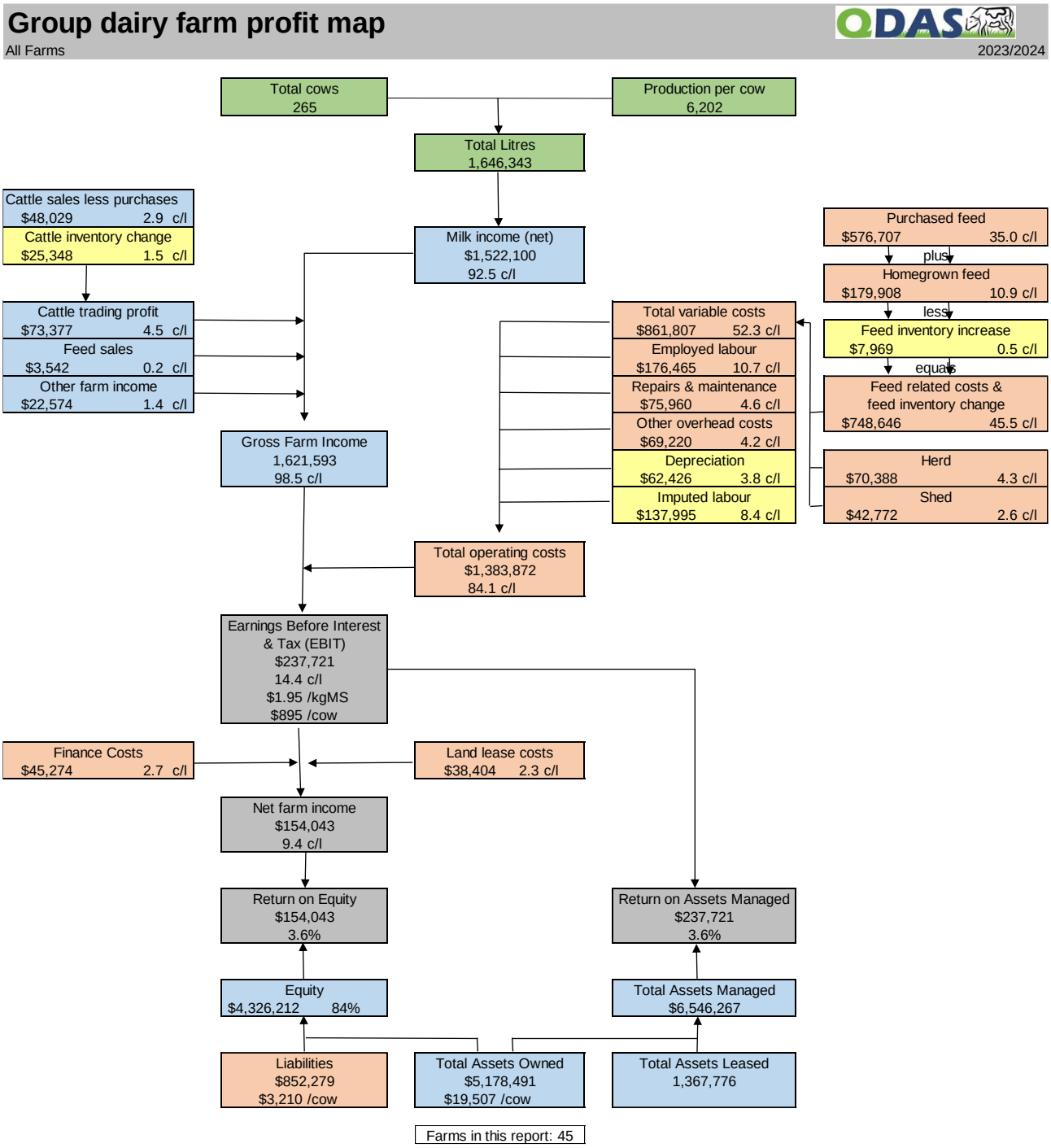
Top 25% 2023/2024

Farm Cash Income	c/L	$/cow	$/kg MS		Total $ Earned
Milk Income (net)	**94.6**	**6,766.9**	**12.60**		**2,415,773**
Livestock sales less purchases (dairy)	2.2	156.4	0.29		55,842
Feed sales	0.5	35.8	0.07		12,770
Other farm cash income	1.1	78.2	0.15		27,900
Total Farm Cash Income	**98.3**	**7,037.2**	**13.11**		**2,512,285**
Farm Cash Costs	**c/L**	**$/cow**	**$/kg MS**	**% Milk receipts**	**Total $ Spent**
Purchased grain, concentrates	27.7	1,985.0	3.70	29.3	708,644
Purchased fodder, silage, hay	3.1	220.9	0.41	3.3	78,875
Other purchased feed	2.4	173.1	0.32	2.6	61,799
Total Purchased Feed	**33.2**	**2,379.0**	**4.43**	**35.2**	**849,318**
Fertiliser	2.9	210.3	0.39	3.1	75,085
Fuel & oil	2.0	146.4	0.27	2.2	52,260
Pasture & crop costs	2.5	175.6	0.33	2.6	62,705
Irrigation costs	1.6	111.1	0.21	1.6	39,678
Hay and silage making costs	2.2	159.1	0.30	2.4	56,784
Agistment	0.1	8.9	0.02	0.1	3,173
Other feed costs	0.2	15.6	0.03	0.2	5,587
Feed Related Costs	**44.8**	**3,206.1**	5.97	**47.4**	**1,144,590**
Margin Over Feed Related Costs	**49.8**	**3,560.7**	**6.63**	**52.6**	**1,271,184**
Animal health	2.2	156.9	0.29	2.3	56,004
Herd improvement	0.8	56.2	0.10	0.8	20,070
Calf rearing	0.8	56.3	0.10	0.8	20,089
Herd Costs	**3.8**	**269.4**	**0.50**	**4.0**	**96,163**
Dairy shed - power	1.1	76.4	0.14	1.1	27,261
Dairy shed - supplies	1.1	77.9	0.15	1.2	27,813
Shed Costs	**2.2**	**154.3**	**0.29**	**2.3**	**55,073**
Total Variable Costs	**50.7**	**3,629.8**	**6.76**	**53.6**	**1,295,826**
Employed labour costs	12.6	898.3	1.67	13.3	320,708
Repairs & maintenance	4.5	319.4	0.59	4.7	114,020
Other overhead costs	2.8	202.6	0.38	3.0	72,344
Total Cash Overhead Costs	**19.8**	**1,420.4**	**2.65**	**21.0**	**507,072**
Total Farm Working Expenses	**70.6**	**5,050.1**	**9.41**	**74.6**	**1,802,898**
Farm Operating Cash Surplus	**27.8**	**1,987.1**	**3.70**	**29.4**	**709,387**
Interest costs	2.0	140.7	0.26	2.1	50,228
Loan principal repayments	8.2	589.1	1.10	8.7	210,312
Land lease costs	2.9	210.4	0.39	3.1	75,107
Other capital purchases (unfinanced)	4.4	315.4	0.59	4.7	112,595
Net Cashflow Before Tax & Drawings	**10.2**	**731.5**	**1.36**	**10.8**	**261,145**

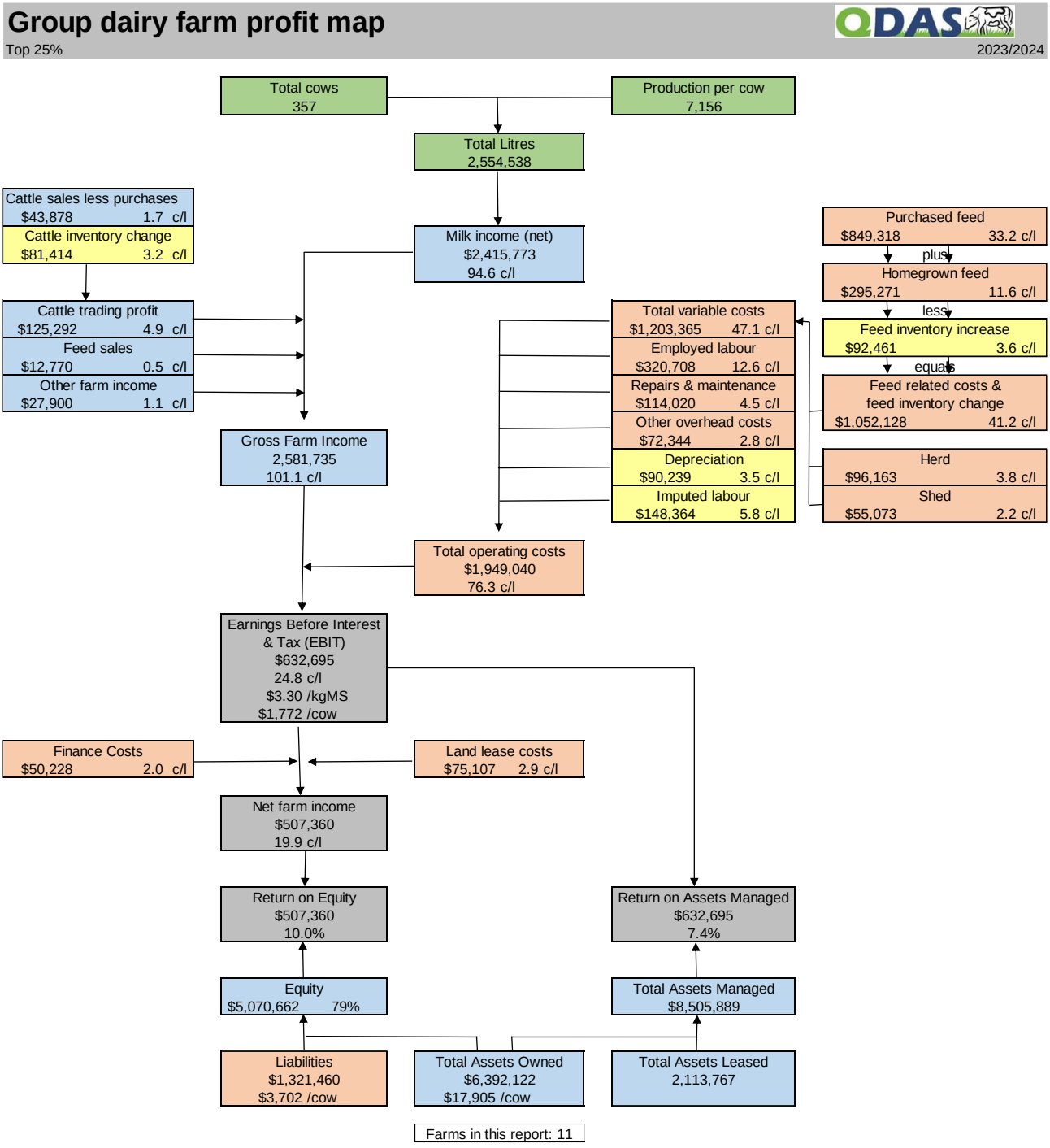
Labour inputs		**Stock**		**Production**		
Paid labour	4.3	Cows (milking and dry)	357	Total litres sold		2,554,538
Unpaid labour	1.8	Total herd	689	Litres / cow		7,156
Total labour units	6.1	**Areas**		Butterfat (kg)	4.11%	104,937
Litres / Labour unit	420,973	Useable area (ha)	359	Protein (kg)	3.40%	86,741
Cows / labour unit	59	Irrigation area (ha)	65	Milk solids / cow (kg)		537

Farms in this report:	11

10.3 Group dairy farm profit map – All 45 QDAS farms (2023-24)



10.4 Group dairy farm profit map – Top 25% of farms (2023-24)



10.5 Group cash flow – South Queensland Grazing (2023-24)

Group cash flow

South Queensland Grazing 2023/2024

Farm Cash Income	c/L	$/cow	$/kg MS		Total $ Earned
Milk Income (net)	**91.8**	**5,229.0**	**12.40**		**953,689**
Livestock sales less purchases (dairy)	4.0	226.7	0.54		41,346
Feed sales	0.1	3.1	0.01		573
Other farm cash income	1.6	91.6	0.22		16,698
Total Farm Cash Income	**97.4**	**5,550.4**	**13.17**		**1,012,307**
Farm Cash Costs	**c/L**	**$/cow**	**$/kg MS**	**% Milk receipts**	**Total $ Spent**
Purchased grain, concentrates	29.6	1,688.1	4.00	32.3	307,885
Purchased fodder, silage, hay	3.6	202.5	0.48	3.9	36,934
Other purchased feed	1.2	69.7	0.17	1.3	12,703
Total Purchased Feed	**34.4**	**1,960.3**	**4.65**	**37.5**	**357,523**
Fertiliser	4.5	255.7	0.61	4.9	46,633
Fuel & oil	1.3	74.8	0.18	1.4	13,649
Pasture & crop costs	2.0	115.0	0.27	2.2	20,976
Irrigation costs	2.1	118.8	0.28	2.3	21,674
Hay and silage making costs	0.4	22.5	0.05	0.4	4,110
Agistment	0.2	10.0	0.02	0.2	1,823
Other feed costs	0.2	10.2	0.02	0.2	1,859
Feed Related Costs	**45.1**	**2,567.4**	6.09	**49.1**	**468,246**
Margin Over Feed Related Costs	**46.7**	**2,661.6**	**6.31**	**50.9**	**485,444**
Animal health	1.9	110.3	0.26	2.1	20,125
Herd improvement	0.9	49.8	0.12	1.0	9,084
Calf rearing	0.1	5.6	0.01	0.1	1,020
Herd Costs	**2.9**	**165.7**	**0.39**	**3.2**	**30,228**
Dairy shed - power	1.2	66.2	0.16	1.3	12,081
Dairy shed - supplies	1.6	92.5	0.22	1.8	16,869
Shed Costs	**2.8**	**158.7**	**0.38**	**3.0**	**28,950**
Total Variable Costs	**50.8**	**2,891.8**	**6.86**	**55.3**	**527,424**
Employed labour costs	10.5	598.1	1.42	11.4	109,085
Repairs & maintenance	3.2	180.6	0.43	3.5	32,934
Other overhead costs	4.6	261.7	0.62	5.0	47,721
Total Cash Overhead Costs	**18.3**	**1,040.3**	**2.47**	**19.9**	**189,740**
Total Farm Working Expenses	**69.0**	**3,932.2**	**9.33**	**75.2**	**717,164**
Farm Operating Cash Surplus	**28.4**	**1,618.2**	**3.84**	**30.9**	**295,143**
Interest costs	2.8	157.1	0.37	3.0	28,660
Loan principal repayments	3.6	205.4	0.49	3.9	37,456
Land lease costs	4.0	226.4	0.54	4.3	41,289
Other capital purchases (unfinanced)	2.5	141.1	0.33	2.7	25,733
Net Cashflow Before Tax & Drawings	**15.6**	**888.3**	**2.11**	**17.0**	**162,005**

Labour inputs		**Stock**		**Production**		
Paid labour	1.3	Cows (milking and dry)	182	Total litres sold		1,038,808
Unpaid labour	1.4	Total herd	348	Litres / cow		5,696
Total labour units	2.6	**Areas**		Butterfat (kg)	4.03%	41,916
Litres / Labour unit	392,573	Useable area (ha)	179	Protein (kg)	3.37%	34,973
Cows / labour unit	69	Irrigation area (ha)	40	Milk solids / cow (kg)		422

Farms in this report:	13

10.6 Group cash flow – South Queensland PMR (2023-24)

Group cash flow

South Queensland PMR 2023/2024

Farm Cash Income	c/L	$/cow	$/kg MS		Total $ Earned
Milk Income (net)	**94.7**	**5,957.9**	**12.58**		**1,899,383**
Livestock sales less purchases (dairy)	2.8	179.3	0.38		57,148
Feed sales	0.5	31.8	0.07		10,131
Other farm cash income	1.2	73.8	0.16		23,517
Total Farm Cash Income	**99.2**	**6,242.7**	**13.18**		**1,990,179**
Farm Cash Costs	**c/L**	**$/cow**	**$/kg MS**	**% Milk receipts**	**Total $ Spent**
Purchased grain, concentrates	27.4	1,723.7	3.64	28.9	549,513
Purchased fodder, silage, hay	3.9	247.3	0.52	4.2	78,829
Other purchased feed	2.4	151.6	0.32	2.5	48,324
Total Purchased Feed	**33.7**	**2,122.5**	**4.48**	**35.6**	**676,666**
Fertiliser	3.2	200.5	0.42	3.4	63,934
Fuel & oil	2.2	136.7	0.29	2.3	43,590
Pasture & crop costs	2.4	148.2	0.31	2.5	47,249
Irrigation costs	2.1	131.3	0.28	2.2	41,855
Hay and silage making costs	2.2	137.7	0.29	2.3	43,903
Agistment	0.1	7.2	0.02	0.1	2,288
Other feed costs	0.1	6.9	0.01	0.1	2,208
Feed Related Costs	**45.9**	**2,891.1**	6.10	**48.5**	**921,693**
Margin Over Feed Related Costs	**48.7**	**3,066.8**	**6.47**	**51.5**	**977,690**
Animal health	2.5	156.0	0.33	2.6	49,739
Herd improvement	0.9	59.7	0.13	1.0	19,047
Calf rearing	1.0	64.2	0.14	1.1	20,462
Herd Costs	**4.4**	**280.0**	**0.59**	**4.7**	**89,249**
Dairy shed - power	1.2	72.9	0.15	1.2	23,250
Dairy shed - supplies	1.1	69.8	0.15	1.2	22,244
Shed Costs	**2.3**	**142.7**	**0.30**	**2.4**	**45,494**
Total Variable Costs	**52.7**	**3,313.8**	**7.00**	**55.6**	**1,056,436**
Employed labour costs	13.8	870.7	1.84	14.6	277,583
Repairs & maintenance	5.2	330.1	0.70	5.5	105,226
Other overhead costs	3.7	233.3	0.49	3.9	74,365
Total Cash Overhead Costs	**22.8**	**1,434.0**	**3.03**	**24.1**	**457,173**
Total Farm Working Expenses	**75.4**	**4,747.8**	**10.02**	**79.7**	**1,513,609**
Farm Operating Cash Surplus	**23.8**	**1,494.9**	**3.16**	**25.1**	**476,570**
Interest costs	1.7	104.2	0.22	1.7	33,221
Loan principal repayments	7.7	484.5	1.02	8.1	154,456
Land lease costs	2.5	160.4	0.34	2.7	51,135
Other capital purchases (unfinanced)	5.4	341.4	0.72	5.7	108,831
Net Cashflow Before Tax & Drawings	**6.4**	**404.4**	**0.85**	**6.8**	**128,927**

Labour inputs		**Stock**		**Production**		
Paid labour	3.8	Cows (milking and dry)	319	Total litres sold		2,006,520
Unpaid labour	1.6	Total herd	596	Litres / cow		6,294
Total labour units	5.5	**Areas**		Butterfat (kg)	4.13%	82,895
Litres / Labour unit	365,264	Useable area (ha)	299	Protein (kg)	3.40%	68,127
Cows / labour unit	58	Irrigation area (ha)	77	Milk solids / cow (kg)		474

Farms in this report:	15

10.7 Group cash flow – South Queensland TMR (2023-24)

Group cash flow

South Queensland TMR 2023/2024

Farm Cash Income	c/L	$/cow	$/kg MS		Total $ Earned
Milk Income (net)	**92.9**	**7,563.4**	**12.68**		**2,489,620**
Livestock sales less purchases (dairy)	5.0	406.0	0.68		133,632
Feed sales	0.0	0.0	0.00		0
Other farm cash income	0.7	54.3	0.09		17,871
Total Farm Cash Income	**98.6**	**8,023.7**	**13.45**		**2,641,123**
Farm Cash Costs	**c/L**	**$/cow**	**$/kg MS**	**% Milk receipts**	**Total $ Spent**
Purchased grain, concentrates	30.3	2,461.8	4.13	32.5	810,350
Purchased fodder, silage, hay	4.9	402.6	0.67	5.3	132,524
Other purchased feed	3.5	281.1	0.47	3.7	92,529
Total Purchased Feed	**38.7**	**3,145.5**	**5.27**	**41.6**	**1,035,403**
Fertiliser	1.8	147.8	0.25	2.0	48,665
Fuel & oil	3.0	240.6	0.40	3.2	79,211
Pasture & crop costs	2.0	164.9	0.28	2.2	54,281
Irrigation costs	1.0	84.3	0.14	1.1	27,732
Hay and silage making costs	2.0	164.1	0.28	2.2	54,025
Agistment	0.0	0.0	0.00	0.0	0
Other feed costs	0.5	43.6	0.07	0.6	14,349
Feed Related Costs	**49.0**	**3,990.9**	6.69	**52.8**	**1,313,665**
Margin Over Feed Related Costs	**43.9**	**3,572.5**	**5.99**	**47.2**	**1,175,954**
Animal health	1.5	121.2	0.20	1.6	39,893
Herd improvement	0.9	72.6	0.12	1.0	23,901
Calf rearing	0.7	55.6	0.09	0.7	18,289
Herd Costs	**3.1**	**249.4**	**0.42**	**3.3**	**82,084**
Dairy shed - power	1.6	129.7	0.22	1.7	42,705
Dairy shed - supplies	0.9	69.9	0.12	0.9	23,010
Shed Costs	**2.5**	**199.6**	**0.33**	**2.6**	**65,715**
Total Variable Costs	**54.6**	**4,439.9**	**7.44**	**58.7**	**1,461,464**
Employed labour costs	7.5	612.4	1.03	8.1	201,597
Repairs & maintenance	4.7	385.0	0.65	5.1	126,725
Other overhead costs	4.0	327.1	0.55	4.3	107,685
Total Cash Overhead Costs	**16.3**	**1,324.6**	**2.22**	**17.5**	**436,007**
Total Farm Working Expenses	**70.8**	**5,764.5**	**9.66**	**76.2**	**1,897,471**
Farm Operating Cash Surplus	**27.8**	**2,259.2**	**3.79**	**29.9**	**743,652**
Interest costs	3.9	317.3	0.53	4.2	104,434
Loan principal repayments	4.0	328.6	0.55	4.3	108,173
Land lease costs	0.5	42.3	0.07	0.6	13,909
Other capital purchases (unfinanced)	9.0	732.6	1.23	9.7	241,163
Net Cashflow Before Tax & Drawings	**10.3**	**838.4**	**1.41**	**11.1**	**275,972**

Labour inputs		**Stock**		**Production**		
Paid labour	3.1	Cows (milking and dry)	329	Total litres sold		2,678,454
Unpaid labour	2.4	Total herd	727	Litres / cow		8,137
Total labour units	5.5	**Areas**		Butterfat (kg)	3.97%	106,277
Litres / Labour unit	490,709	Useable area (ha)	433	Protein (kg)	3.36%	90,069
Cows / labour unit	60	Irrigation area (ha)	63	Milk solids / cow (kg)		596

Farms in this report:	6

10.8 Group cash flow – North Queensland all farms (2023-24)

Group cash flow

North Queensland all farms 2023/2024

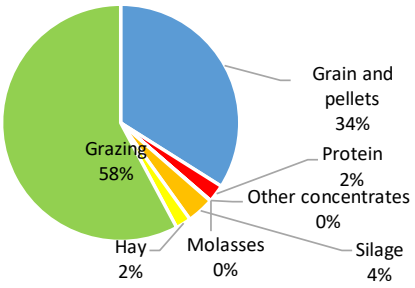
Farm Cash Income	c/L	$/cow	$/kg MS		Total $ Earned
Milk Income (net)	**88.1**	**4,415.1**	**12.22**		**1,071,993**
Livestock sales less purchases (dairy)	4.1	205.9	0.57		49,988
Feed sales	0.0	0.0	0.00		0
Other farm cash income	1.4	69.0	0.19		16,765
Total Farm Cash Income	**93.5**	**4,690.1**	**12.98**		**1,138,746**
Farm Cash Costs	**c/L**	**$/cow**	**$/kg MS**	**% Milk receipts**	**Total $ Spent**
Purchased grain, concentrates	30.7	1,540.9	4.27	34.9	374,134
Purchased fodder, silage, hay	2.7	133.4	0.37	3.0	32,399
Other purchased feed	0.3	12.7	0.04	0.3	3,075
Total Purchased Feed	**33.6**	**1,687.0**	**4.67**	**38.2**	**409,608**
Fertiliser	3.8	190.7	0.53	4.3	46,295
Fuel & oil	1.3	63.4	0.18	1.4	15,391
Pasture & crop costs	1.3	66.4	0.18	1.5	16,114
Irrigation costs	0.4	19.6	0.05	0.4	4,769
Hay and silage making costs	0.3	13.6	0.04	0.3	3,295
Agistment	0.5	25.4	0.07	0.6	6,162
Other feed costs	0.3	12.9	0.04	0.3	3,122
Feed Related Costs	**41.5**	**2,078.9**	5.75	**47.1**	**504,755**
Margin Over Feed Related Costs	**46.6**	**2,336.2**	**6.47**	**52.9**	**567,238**
Animal health	3.2	160.5	0.44	3.6	38,981
Herd improvement	1.5	76.3	0.21	1.7	18,532
Calf rearing	1.3	66.9	0.19	1.5	16,243
Herd Costs	**6.1**	**303.8**	**0.84**	**6.9**	**73,756**
Dairy shed - power	1.7	84.9	0.24	1.9	20,624
Dairy shed - supplies	1.8	92.2	0.26	2.1	22,378
Shed Costs	**3.5**	**177.1**	**0.49**	**4.0**	**43,002**
Total Variable Costs	**51.1**	**2,559.8**	**7.09**	**58.0**	**621,513**
Employed labour costs	8.2	409.0	1.13	9.3	99,296
Repairs & maintenance	4.1	205.4	0.57	4.7	49,876
Other overhead costs	5.2	261.0	0.72	5.9	63,366
Total Cash Overhead Costs	**17.5**	**875.4**	**2.42**	**19.8**	**212,538**
Total Farm Working Expenses	**68.5**	**3,435.1**	**9.51**	**77.8**	**834,051**
Farm Operating Cash Surplus	**25.0**	**1,254.9**	**3.47**	**28.4**	**304,695**
Interest costs	4.2	212.2	0.59	4.8	51,521
Loan principal repayments	3.5	176.4	0.49	4.0	42,824
Land lease costs	2.6	130.8	0.36	3.0	31,763
Other capital purchases (unfinanced)	1.8	91.9	0.25	2.1	22,317
Net Cashflow Before Tax & Drawings	**12.8**	**643.6**	**1.78**	**14.6**	**156,269**

Labour inputs		**Stock**		**Production**		
Paid labour	1.7	Cows (milking and dry)	243	Total litres sold		1,217,309
Unpaid labour	1.8	Total herd	450	Litres / cow		5,014
Total labour units	3.5	**Areas**		Butterfat (kg)	4.01%	48,759
Litres / Labour unit	349,801	Useable area (ha)	204	Protein (kg)	3.20%	38,956
Cows / labour unit	70	Irrigation area (ha)	18	Milk solids / cow (kg)		361

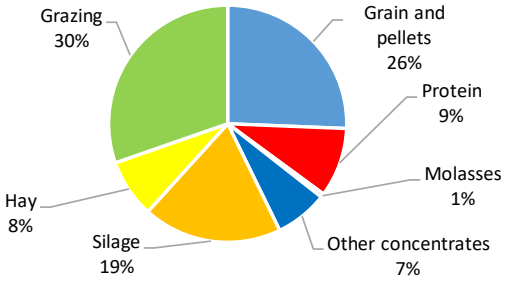
Farms in this report:	10

10.9 Average milker diets (kg DM/cow/day) for regional production systems (2023-24)

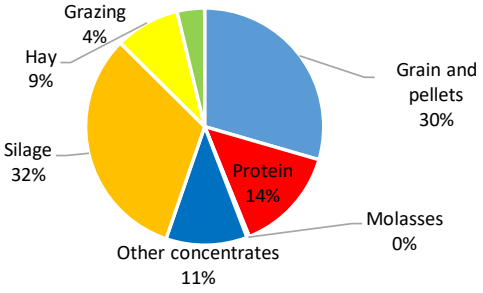
South Queensland Grazing	
Average milker diet	**kg/cow/day**
Grain and pellets	6.4
Protein	0.5
Molasses	0.0
Other concentrates	0.0
Silage	0.7
Hay	0.4
Grazing	11.0
TOTAL	**18.9**



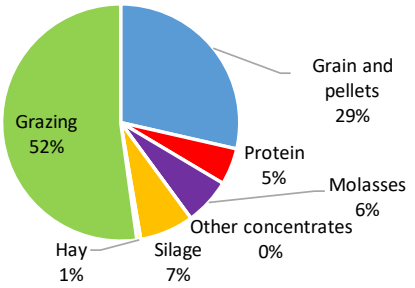
South Queensland PMR	
Average milker diet	**kg/cow/day**
Grain and pellets	5.1
Protein	1.9
Molasses	0.1
Other concentrates	1.4
Silage	3.8
Hay	1.6
Grazing	6.1
TOTAL	**19.9**



South Queensland TMR	
Average milker diet	**kg/cow/day**
Grain and pellets	6.8
Protein	3.3
Molasses	0.1
Other concentrates	2.5
Silage	7.4
Hay	2.0
Grazing	0.9
TOTAL	**23.0**



North Queensland All Farms	
Average milker diet	**kg/cow/day**
Grain and pellets	5.0
Protein	0.9
Molasses	1.1
Other concentrates	0.0
Silage	1.3
Hay	0.1
Grazing	9.1
TOTAL	**17.4**



10.10 Business traits, key performance indicators and definitions

Key performance indicators (KPI) are used in QDAS to monitor farm performance. Table 16 shows these indicators grouped under the three key business trait headings:

- Solvency
- Profitability
- Efficiency

A further business trait, liquidity, is essential to measuring a business' ability to meet short term debts. QDAS does not report on this business trait as it concentrates reporting into the longer-term business traits.

Why use KPI

Put simply, a KPI is a calculation 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 16. Key performance indicators used in QDAS

Profitability

- Return on assets managed – %
- Return on equity – %
- EBIT – $/cow
- EBIT margin – %

Solvency

- Equity %
- Debt to equity ratio

Efficiency - Capital

- Asset turnover ratio
- Total liabilities per cow – $/cow
- Interest per cow – $/cow

Efficiency - Production

- Feed related cost – c/L
- Margin over feed related costs – $/cow
- Total variable cost – c/L
- Gross margin milk – $/cow

Efficiency – Physical

- Litres of milk from home grown feed
- Production per cow – Litres
- Litres per labour unit

Profitability KPI 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.

Return on assets managed

This measures the profit generating capacity of the total assets managed by the business. It measures the farm's effectiveness in using the available total assets (owned, financed and leased).

Calculation

(EBIT / Total assets managed) * 100

Return on equity

This KPI measures the return on the owner's investment in the business. Interest costs, land lease and rent are deducted from EBIT 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

(Net farm income / Equity) * 100

EBIT per cow

Earnings Before Interest and Tax (EBIT) is a calculation that 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. Depreciation and a management allowance are included as expenses in this profit KPI.

Calculation

EBIT / Number of cows

EBIT margin

Similar to the above calculation but is expressed as a percentage of farm income.

Calculation

(EBIT / Total gross farm income) * 100

Solvency KPI used in QDAS

Solvency ratios indicate how the business is financed, e.g. by owner's 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' 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.
- 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?

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 debt and the business cash flow.

Calculation

((Assets – Liabilities) / Assets) *100

Debt to equity ratio

This is another way of expressing equity.

Calculation

Liabilities / (Assets – Liabilities)

Efficiency KPI used in QDAS

When examining a business these KPIs 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.

Efficiency - Capital

Asset turnover ratio (ATO)

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

Calculation

Total gross farm income / Assets

Total liabilities per cow

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

Calculation

Liabilities / Number of cows

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 / Number of cows

Efficiency - Production

Feed related cost per litre

Feed related costs are variable cash costs and includes purchased as well as all home-grown feed input costs.

Calculation

Total of all feed related costs / Milk sold

Margin over feed related costs

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

Calculation

(Milk income – Feed related costs) / Number of cows

(Milk income – Feed related costs) / Milk sold

Total variable cost per litre

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

Calculation

(Feed related + shed + herd costs) / Milk sold

Efficiency - Physical

Litres of milk from home grown feed

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

Calculation

The milk from home grown feed is expressed as litres per cow per day

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

Milk sold / Number of cows

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

Milk sold / Number of labour units (paid + unpaid)

General comments

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

Other measures are important when examining an individual plan especially liquidity traits e.g. cash surpluses. Environmental KPI and other sustainability considerations are also important.

The change in net worth is also an important indicator for every farm owner and should be calculated regularly.