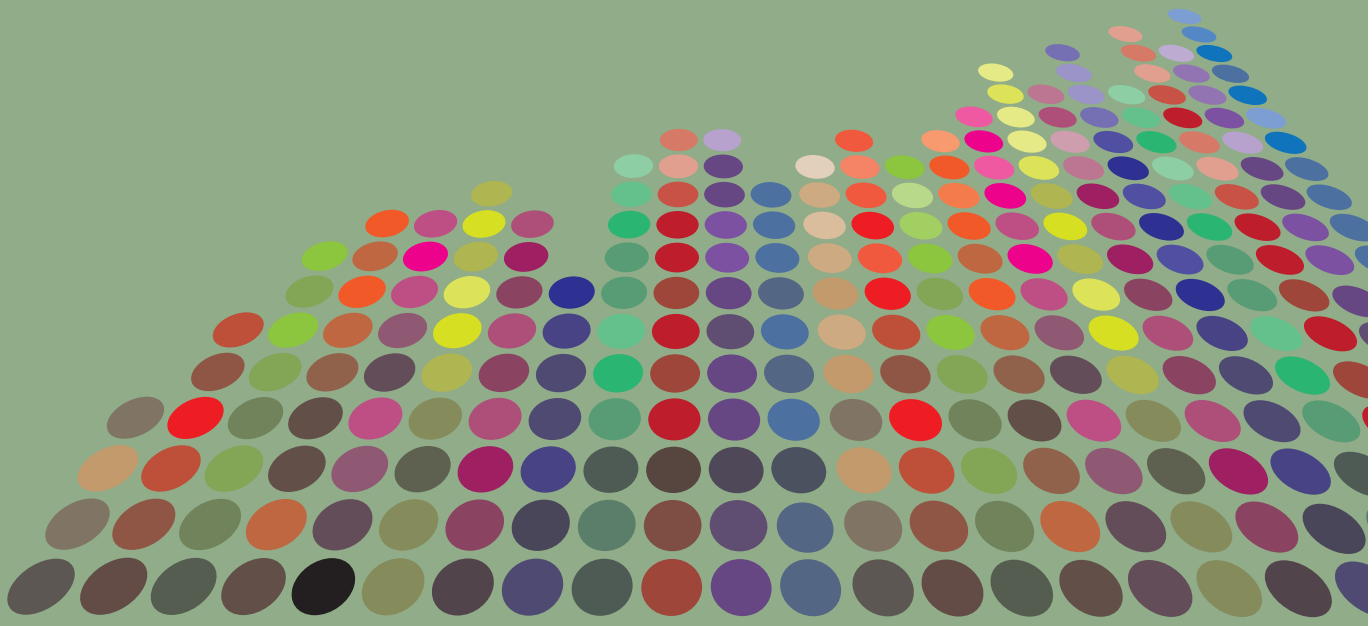
Department of **Employment, Economic Development and Innovation**



Queensland beef industry economic performance

Queensland Government

On 26 March 2009, the Department of Primary Industries and Fisheries was amalgamated with other government departments to form the Department of Employment, Economic Development and Innovation.

Queensland beef industry economic performance

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Key points

Business performance benchmarking of the Queensland beef industry indicates the following:

- Return on assets (ROA) is declining
- The majority of producers are spending more than they earn
- Many beef businesses are vulnerable to increasing interest rates
- A small minority of producers are achieving good returns. These producers are not characterised by better land or access to premium markets.
- Higher performing businesses have sufficient scale, focus on controlling costs and have greater flexibility due to appropriate stocking rates
- Future policy and RD&E programs need to focus on whole of business performance using objective data to identify problems and plan solutions.

This report identifies key performance results for the Queensland beef industry for the period 2000–01 to 2008–09. Data is drawn from the ProfitProbe™ database and combined with observations from business analysis conducted across the CQ *BEEF* project to highlight key drivers of beef business profitability in Queensland and provide suggestions for future policy development and beef industry RD&E. The same dataset was used for the recently released report by Meat and Livestock Australia; 'Northern beef situation analysis 2009'.

ProfitProbe™

ProfitProbe™ is a business analysis system which provides a systematic approach to analysing business performance. It was primarily designed for the grazing industry but can handle cropping, sheep, sugar, dairy and other agricultural enterprises. ProfitProbe™ has been used by the CQ *BEEF* project since 2007 to give producers a detailed understanding of how their own business is performing, identify strengths and weaknesses and track their progress over time. The benchmark results provide extension officers and technical staff with quantitative information with which to design research, development and extension programs and importantly, measure the performance of these programs over time.

ProfitProbe™ has now been conducted across nine CQ *BEEF* groups in the Fitzroy and Mackay-Whitsunday regions and is being extended to include sugar businesses in Project Catalyst and beef businesses in the Queensland Gulf region and Northern Territory as part of the Department of Agriculture Forestry and Fishing (DAFF) and Meat and Livestock (MLA) funded Climate Clever Beef project.

The following tables show some of the key performance benchmarks and trends in the Queensland beef industry for the 2008–09 financial year. Only a selection of the benchmarks which are available have been discussed, a full list of the benchmarks for 2008–09 is shown in appendix A.

Queensland beef industry performance

Return on assets (ROA)

In 2008–09 the top 20%[1] of beef properties in Queensland achieved an average return on asset (ROA) of 5.5%, an increase of 1% from the previous year. This is higher than the average bank deposit rate for the same period. In comparison, the group average for the Queensland dataset was 1.5%, an increase of only 0.4% from the previous year. As shown in figure 1, ROA has been falling over the last decade and the gap between the top 20% and the group average has narrowed slightly. The reduction in ROA has been largely driven by increasing land values and increasing input costs.

The impact of increased land values is also shown (figure 2) by the decline in the asset turnover ratio from an average 24% to 13% for the top 20% group, and from 16.1% to 7% for the group average between 2000–2001 and 2008–2009.

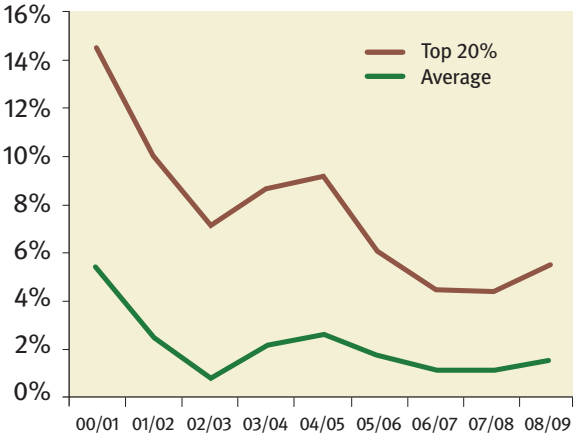


Figure 1. ProfitProbe™ Return on assets data for Queensland herds 2001–2009. Return on assets (%) = EBIT[2]/total assets

[1] The top 20% group are defined as those in the top 20% for ROA

[2] EBIT – Earnings before interest and tax: The profit from the production business (gross product less direct, overhead costs, depreciation, unpaid labour)

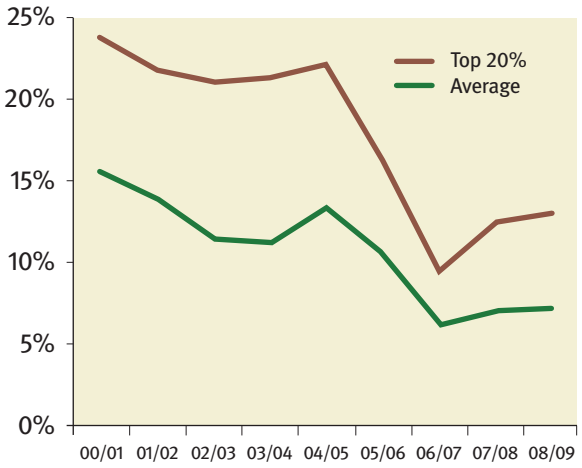


Figure 2. ProfitProbe™ Asset turnover ratio data for Queensland herds 2001–2009. Asset turnover ratio (%) = Gross product/total assets

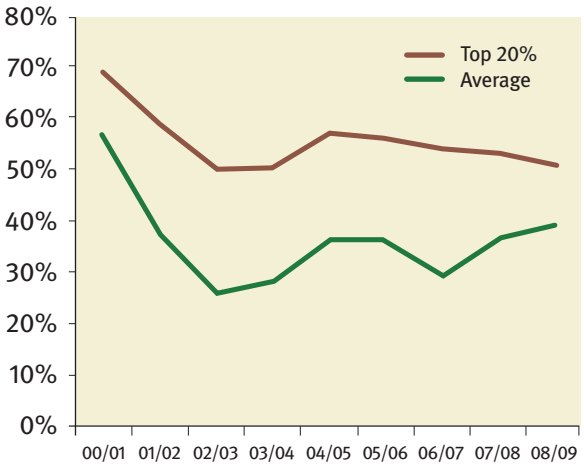


Figure 3. ProfitProbe™ Gross margin ratio data for Queensland herds 2000–2008. Gross margin ratio (%) = Gross margin/gross product

An important consideration in examining beef enterprise performance is the principle that beef enterprises comprise two businesses; a land business and a beef production business. Evaluation of the beef production component (production business) shows a ROA for the top 20% of 15.4% and a Group average of –4.4%. While this is superior to the overall ROA it clearly shows the average production business has little chance of financing the land asset it is conducted on.

The inherent challenges to beef industry economic performance are;

- It is capital intensive due to the cost of land and the animal production unit
- Production cycle is very long i.e. 39–45 months from conception to sale for Jap Ox production systems and 20–25 months for a breeder-store steer operation
- Highly variable production environment.

Gross margins

The gross margin for an enterprise is calculated as the gross income minus direct costs (i.e. those costs which vary directly with each additional unit of production).

The gross margin ratio calculated by ProfitProbe™ is total gross margin expressed as a percentage of total gross product. This has declined for all businesses but the top 20% continue to perform better with 10 year average of 58% versus 40% for the group average (figure 3).

Prices and production

It is often assumed that high performing producers are receiving a premium for their product however, the data does not support this assumption. As shown in table 1 the price received by the top 20% is not significantly higher than the average, nor do the top 20% produce more kilograms per hectare. However they do produce more kilograms per animal (6.8%/LSU). This would suggest that their animals are both growing faster and have higher fertility rates.

Table 1. ProfitProbe™ meat production and price data for Queensland herds 1998–2008 (MLA 2010)

KPI	Group average	Top 20%
Meat produced (kg/ha)	32.9	32.2
Meat produced (kg/LSU)	101.9	108.8
Meat price ($/kg)	1.52	1.53

Costs

One of the key characteristics of high performing beef businesses is that costs are controlled and appropriate for the size and phase[3] of the business. For the top 20%, the average expense ratio[4] (figure 4) for 2008–09 was 81%, up from 74% the previous year but still considerably lower than the group average of 110% (i.e. on average these businesses have spent 10% more than they have earned). Of notable concern is that in only two of the last nine years has the average group spent less than 100% of their gross product earnings. This pattern has occurred partly due to rising land values which

[3] Phase refers to whether the business is in the initial start up stages (phase 1), has reached a level of steady growth (phase 2) or has reached maximum growth and requires reinvestment. Targets for KPIs vary depending on the phase of growth.

[4] Expense ratio (%) = Total expenses/gross product

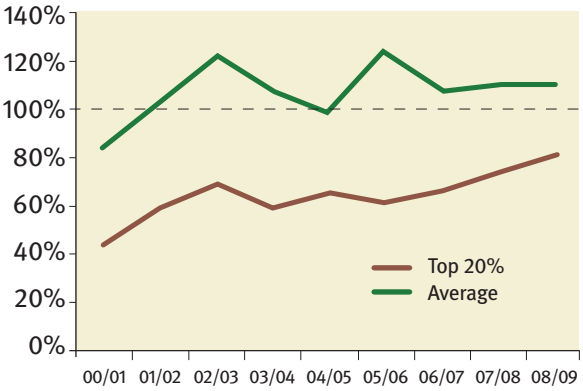


Figure 4. ProfitProbe™ Expense ratio data for Queensland herds 2000–2008. Expense ratio (%) = (direct + overhead + finance costs)/gross product

have allowed businesses to continue borrowing against their equity. However, as growth in land values slows and banks become more wary, many producers may find that continued borrowing to finance operations may not be possible.

Production costs

Direct costs

The better performing enterprises have lower direct production costs across a number of categories (table 2). This indicates that direct cost expenditure is targeted and is achieving higher production. The top 20% are spending considerably less on supplementary feed and fodder, labour and agistment per LSU but are still producing more kilograms of beef per LSU than the group average. This is due to management practices which ensure stocking rates are appropriate and reduced early in dry seasons, supplementation programs which are targeted and timely and a focus on removing unproductive animals.

Table 2. ProfitProbe™ production costs for Queensland herds 1998–2008 (MLA 2010)

KPI	Group average	Top 20%
Total direct costs ($/LSU)	**$41.93**	**$36.46**
Direct costs – supp and fodder ($/LSU)	$13.16	$10.72
Direct costs – labour ($/LSU)	$7.14	$5.51
Direct costs – animal health ($/LSU)	$4.22	$3.69
Direct costs – agistment ($/LSU)	$3.13	$2.09
Direct costs – freight and selling ($/LSU)	$11.87	$11.82
Direct costs – other ($/LSU)	$2.41	$2.63

Overhead costs

There is a clear difference between the top 20% and the group average in overheads ratio with the top 20% spending $22 less on overheads per $100 of gross product over the period 2001–2009 (figure 5).

The better performing enterprises are managing overheads better and avoiding overcapitalisation on plant and equipment. This is demonstrated by the top 20%'s plant income ratio[5] being nearly half that of the group average (29% v. 56%). While managerial choice is a critical issue in plant and equipment, smaller properties have an inherent problem in that plant and equipment are 'indivisible assets'. The vehicle and cattle crush required to run 500 head could easily handle 1000 head.

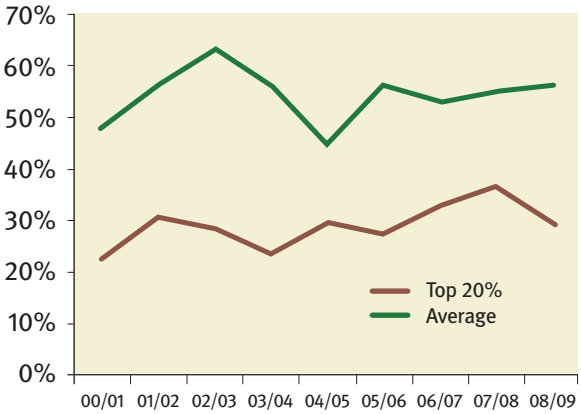


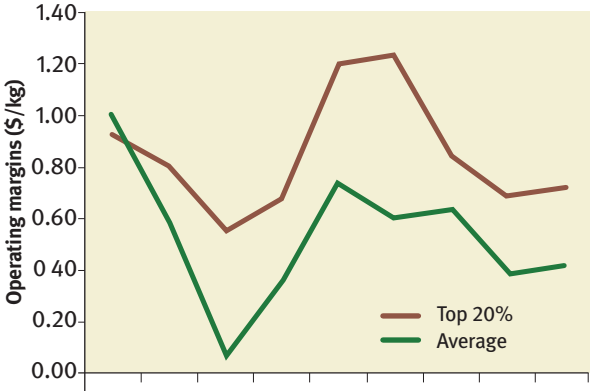
Figure 5. ProfitProbe™ Overhead ratio data for Queensland herds 2000–2008. Overhead ratio (%) = overheads/gross product

Cost of production and operating margin

Cost of production (COP) is a controversial concept in the beef industry because of the inherent difficulties in calculating it when the production cycle runs over two to four financial years and lifestyle and managerial choice have a major impact on costs. The ProfitProbe™ data shows that the lower direct and overhead costs of the top 20% translate into an average COP over 2001–2009 of $0.73/kg versus $1.01/kg group average. Costs have risen markedly over the 10 years with the group average COP rising from $0.70/kg to $1.20/kg and the top 20%'s from $0.50/kg to over $0.90/kg.

As there is virtually no difference in price received, the higher costs of the group average are responsible for the lower operating margin (difference between price received and COP)

[5] Plant income ratio (%) = plant and equipment value/gross product



	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09
Top 20%	$0.92	$0.80	$0.55	$0368	$1.20	$1.23	$0.85	$0.68	$0.72
Av	$1.00	$0.58	$0.06	$0.35	$0.73	$0.60	$0.63	$0.39	$0.41

Figure 6. ProfitProbe™ Operating margin data for Queensland herds 2001–2009. Operating margin = price received – cost of production.

(figure 6). Cattle price spikes are responsible for the peaks in 2001 and 2005.

Finance and debt

A very active property market and rapidly rising land prices from 2001 to 2008 has resulted in increased debt with the group average finance ratio[6] rising from just under 14% to 26% (i.e 26% of gross income is spent on servicing debt). The top 20% have also had a major increase (7% to 18%) but are clearly in a better position.

A significant concern for all beef enterprises is the steep increase in liabilities($)/LSU since 2004–05 (figure 7). In five years average rates have almost doubled from $379/LSU to $676/LSU. This means that in order to clear their debt, a beef producer would need to sell every animal for an average of $676.

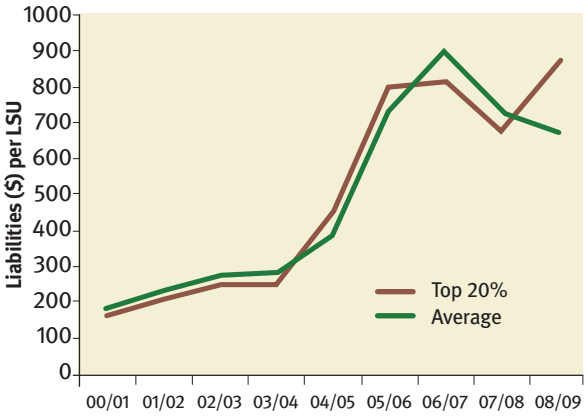


Figure 7. Liabilities per LSU

Scale

There are major differences in scale between the top 20% and the group average (table 3). The top 20% have only produced 6.8% more kg meat/LSU and receive the same prices as the average (table 1), therefore indicating that the higher number of LSU run is the principal cause of the markedly higher gross product.

Table 3. ProfitProbe™ scale KPIs for Queensland herds 1998–2008 (MLA 2010)

KPI	Group average	Top 20%
Average LSU managed	2,998	5,363
Area available (ha)	21,176	40,940
Gross product ($)	495,018	900,013

The impact of lower direct and overhead costs for the top 20% are magnified when these costs are considered as a proportion of gross product. Higher numbers of animals managed means that the top 20% group can dilute their overheads over more animals which results in an overhead ratio of 31% compared to 54% for the group average.

Scale can also enable larger enterprises to secure inputs at lower prices and this is likely to be a component of the lower direct costs seen in the top 20%.

Scale is a challenging issue for enterprises to correct and consequently an industry structural issue. Scale problems occur most often when capital (usually plant and equipment) and labour are not fully utilised. Many small to medium businesses cannot expand without significant off farm income.

Alternative methods of increasing scale include:

- agisting or leasing land to run more cattle
- intensifying production e.g. through use of feedlots or improved pasture (leucaena) to reduce age of turnoff
- identify additional profitable enterprises either on-farm (e.g. farm tourism) or off-farm
- employing excess labour off-farm.

However, very large scale corporate enterprises are not necessarily the answer as these enterprises have also had a history of poor returns in recent years. Production losses can also occur on large properties because of the difficulties in properly managing large numbers of animals and achieving timeliness of operations.

[6] Finance ratio – Interest and leasing costs/gross product

People performance indicators

Another effect of scale is labour efficiency with major differences in gross product/full time equivalent (FTE) and LSU managed/FTE between the top 20% and the group average (figure 8). Scale and the greater ability to employ labour can allow the owner/manager to spend more time managing the business and has been observed to contribute to improved profitability.

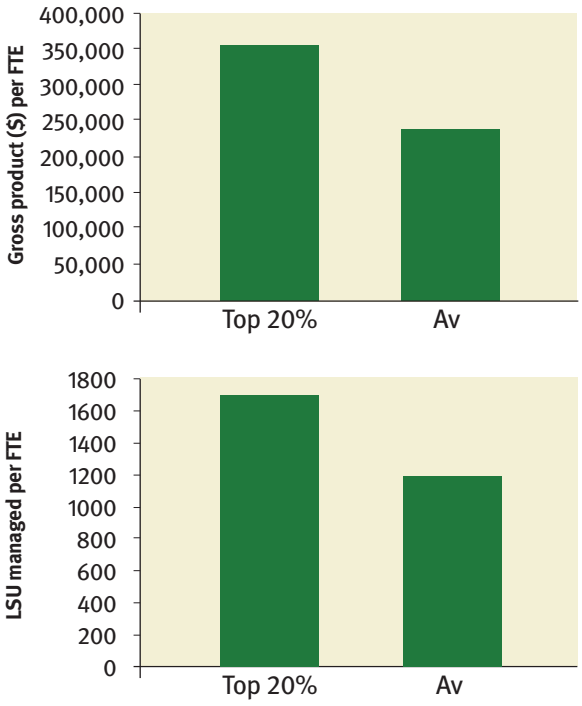


Figure 8. ProfitProbe™ labour efficiency indicators for Queensland herds 2001–2009

Stocking rate

The ProfitProbe™ data shows major differences in stocking rate between the top 20% and the group average. Figure 9 shows stocking rate adjusted for rainfall (stock days/ha/100 mm). The data shows the top 20% were stocked about 17% lower over the last four years.

Lighter stocking rate combined with larger scale provides the top 20% of businesses greater flexibility and resilience in the face of seasonal conditions and help maintain production and control costs. As a result of lower stocking rates the top 20% spent less on supplements, fodder and agistment.

Queensland regional performance

Data collected by the Profit Probe™ system is arranged by geographic location into several land-type regions as shown in figure 10. Benchmarks are calculated for the whole database and for each region to enable comparisons to be made between business operating with similar natural resource constraints.

Across all regions there is a striking difference between the top 20% and the group average (table 4). The Mitchell grass region has the best ROA followed by the Northern, Brigalow and Ironbark regions. The Brigalow gross margin is higher than Mitchell, Northern and Ironbark regions respectively. The productive capacity of the Brigalow region is well known and demonstrated by the high EBIT, production ROA, and meat produced per hectare and LSU.

However, the economic performance of the Brigalow and Ironbark regions are severely compromised by high expense ratios. Scale is an issue as enterprises in these regions run less LSU and consequently have a lower gross product with which to dilute costs. The high plant income ratios are symptomatic of high cost enterprises.

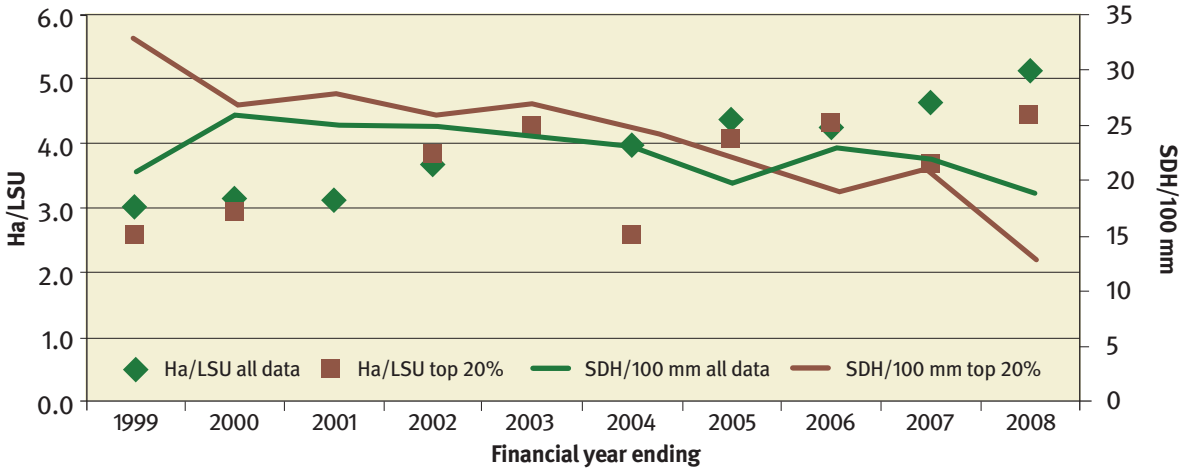


Figure 9. Stocking rate (stock days per hectare per 100 mm rain)

Table 4. ProfitProbe™ KPI data for Queensland and regional herds 1998–2008 (MLA 2010)

KPI	Queensland data		Northern region		Mitchell & broken downs region		Brigalow region		Ironbark region	
	Group av	Top 20%	Group av	Top 20%	Group av	Top 20%	Group av	Top 20%	Group av	Top 20%
ROA (%)	2.60	8.53	2.87	7.91	5.10	10.45	1.98	7.73	1.17	6.88
Asset turnover ratio (%)	11.4	18.6	12.0	15.7	13.6	19.2	11.0	17.5	10.0	18.3
Gross margin ratio (%)	40.4	58.0	35.8	50.0	39.1	64.7	43.2	60.3	32.5	55.6
Overhead ratio (%)	53.8	30.7	46.6	27.9	42.8	26.7	56.9	32.0	65.4	37.8
Finance ratio (%)	17.8	12.2	14.1	13.3	11.0	11.6	19.2	12.5	20.5	11.9
Expense ratio (%)	101.2	61.8	88.5	62.1	88.4	55.5	105.2	62.4	120.9	69.1
EBIT ($/ha)	8.16	14.19	7.21	12.17	6.91	18.88	17.33	38.75	7.43	21.87
Production ROA (%)	−4.41	15.43	0.83	12.83	4.83	20.23	−7.74	14.33	−10.15	8.82
Plant income ratio (%)	56.5	28.7	41.0	21.9	53.3	32.2	61.9	31.0	67.1	27.6
Meat produced (kg/ha)	32.9	32.2	13.7	13.3	14.2	21.8	45.0	50.4	32.9	30.4
Gross product ($)	495,018	909,013	745,559	1,405,680	404,717	549,430	391,642	651,330	310,157	482,014
Average LSU managed	2,980	5,363	6,125	10,565	2,549	2,334	1,705	2,569	1,679	2,425
Area available (ha)	21,177	40,940	40,531	60,249	22,013	21,469	6,712	9,110	7,148	10,292
Meat price ($/kg)	1.52	1.53	1.40	1.41	1.50	1.56	1.55	1.58	1.56	1.58
Total direct costs ($/kg)	0.42	0.34	0.43	0.36	0.41	0.29	0.42	0.32	0.52	0.36
Production GM ($/kg)	1.08	1.21	1.01	1.16	1.09	1.26	1.16	1.36	1.05	1.33
Total overheads ($/kg)	0.59	0.39	0.48	0.37	0.52	0.37	0.69	0.44	0.82	0.54
Cost of production ($/kg)	1.01	0.73	0.91	0.73	0.93	0.66	1.10	0.76	1.35	0.90
Meat produced (kg/LSU)	101.9	108.8	88.3	88.4	111.5	159.3	126.9	141.9	105.7	116.7
Direct costs – supp and fodder ($/LSU)	13.16	10.72	13.69	12.80	13.14	7.08	15.13	11.24	17.48	12.29
Direct costs – labour ($/LSU)	7.14	5.51	5.46	4.67	7.78	5.29	9.68	8.05	10.33	7.14
Direct costs – animal health ($/LSU)	4.22	3.69	2.98	2.56	4.23	7.09	5.84	5.08	6.92	6.13
Direct costs – agistment ($/LSU)	3.13	2.09	2.18	0.87	2.54	2.39	2.85	1.92	4.95	2.47
Direct costs – freight and selling ($/LSU)	11.87	11.82	9.90	9.64	14.55	22.02	14.04	12.70	11.42	10.27
Total direct costs ($/LSU)	41.93	36.46	34.78	31.01	43.81	44.91	52.54	45.50	53.79	41.00
Production GM ($/LSU)	110.08	131.77	88.87	92.20	122.16	186.48	147.63	175.05	111.97	152.62
Total overheads ($/LSU)	59.95	43.51	39.85	33.23	58.78	58.39	86.81	62.45	86.03	63.11

High finance ratios are a particular challenge for the Brigalow and Ironbark regions. The escalation in land values has been very high in the Brigalow region because of its reputation and location. It is now amongst the dearest land in Australia on a beast area basis. At the height of the property market good farming land was often cheaper per hectare than good fattening country in central Queensland. The Ironbark region has also had major increases in land values and its enterprises are constrained by productivity and scale.

The top 20% in the Brigalow and Ironbark regions have much lower finance ratios but there is little difference from the group average in the Northern and Mitchell regions. The high gross product of the Northern region could be helping these enterprise manage their finance costs. The Mitchell grass region's gross product is not particularly higher than the Brigalow so it is likely that producers in the Northern and Mitchell regions have been more careful about increasing their borrowings.

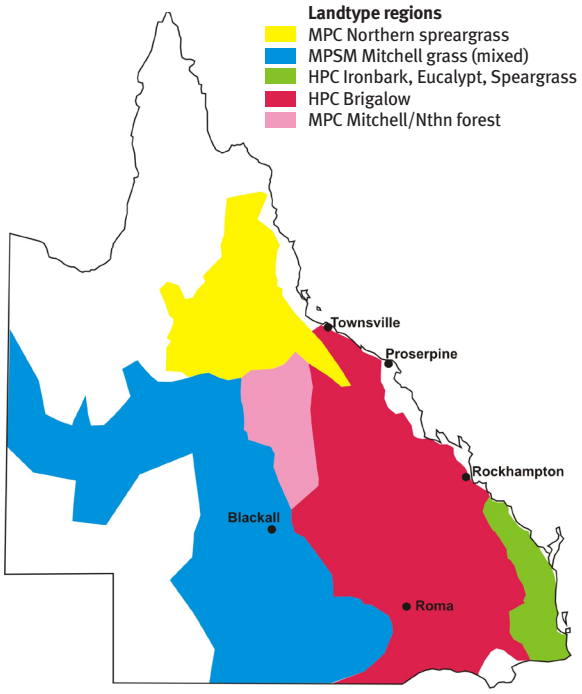


Figure 10. RCS landtype regions

Conclusions and policy implications

- The average beef enterprise is achieving marginal returns and enterprises are clearly vulnerable to a beef industry downturn and general economic conditions (e.g. currency appreciation, rising interest rates and falling prices) or a run of poor seasons.
- The industry has high finance costs due to an active property market in 2001–2008 and a rapid rise in land values. It is clearly vulnerable to rising interest rates and property depreciation.
- The top 20% of producers are achieving a reasonable return on assets. These producers have sufficient size to achieve economies of scale and control costs, both direct and overhead. The top 20% also have lower finance ratios, this is particularly apparent in the Brigalow and Ironbark regions.
- The experience of staff working in projects such as CQ *BEEF* is that the top performing producers;
  - Are focussed on managing a business
  - Understand their cost structures
  - Make and implement decisions in a timely manner i.e. managing seasons, marketing, weaning
  - Continuously monitor the enterprise and animal performance
  - Are good land managers and avoid high drought feeding costs.
- The Brigalow and Ironbark region have the lowest ROA due to high cost structures. These regions have been most affected by rising land prices and consequently debt levels and finance costs.
- The lower stocking rates (adjusted for rainfall) of the top 20% indicate that more conservative stocking and better land management are critical to enterprise performance.
- Analysis to date has not revealed clear linkages between production performance (growth rate and fertility) and overall profitability. Further analysis is required to clearly establish how specific production drivers plus management strategies combine to drive profitability. This would appear critical for RD&E planning.