



Improving the performance of northern beef enterprises

Key findings for producers from the *Northern Beef Report*

2nd edition

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Authors: Ian McLean and Dr Phil Holmes

Contact:

Meat & Livestock Australia (MLA)

Phone: 1800 023 100

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Glossary of terms

Adult Equivalent (AE)	The animal unit used to standardise herds of different size and structure. One AE is a 450kg <i>Bos taurus</i> steer at maintenance.
Capital expenditure	Money spent on buying or improving assets with a useful life extending beyond one year. For example, buying plant and equipment, installing a new water point or fence line.
Capital return	The return to the owners of the business from capital appreciation over time (change in land value/total assets).
Cost of Capital	The cost of the capital invested in the business.
Cost of production	The cost of each kilogram of beef produced by the business (\$/kg live weight) is a function of production and costs, usually in that order of importance.
Earnings Before Interest and Tax (EBIT)	The profit of a business before interest and tax are accounted for. Allows performance to be analysed independently of financing and ownership structure.
Enterprise expenses	Money spent directly on the herd or enterprise eg animal health, mustering and contracting, fodder, supplements.
Full time equivalent (FTE)	The total labour used by the business (owners, family, employees and contractors) expressed as multiples of a full-time person (eg a four-person contract mustering team for a month is 0.33 FTE).
Gross Profit	The effective income of the business, which is gross sales, less purchases and plus or minus the increase or decrease in inventory value during the year.
Key Performance Indicator (KPI)	Key measures that provide insight into the performance of the business and the underlying factors that determine that performance.
Labour efficiency	A measure of how efficiently a business uses labour, expressed as the number of AE run per full time equivalent of labour (AE/FTE).
Northern Beef Report (NBR)	The main report, Northern Beef Report: 2013 Situation Analysis, which this document draws information from and expands upon.
Operating expenses	Expenses related to the operation and management of the business year to year, as distinct from finance costs, capital expenditure, taxation costs and owner expenses. Operating expenses consist of enterprise expenses and overhead expenses.
Operating margin	The profit on each kilogram of beef produced (income per kg less cost of production).
Operating return	The profit of the business expressed as a percentage of the assets used to generate that profit (EBIT/ total assets).
Operating scale	The size of the beef business, expressed as the number of Adult Equivalents (AE) run.
Overhead expenses	The general running costs of the business that are not directly attributable to an enterprise eg administration, fuel, general repairs and maintenance, wages.
Top 25%	The top 25% of producers ranked by profitability.
Total business return	The return from running and owning the beef business (operating return plus capital return).

1. Introduction

The *Northern Beef Report: 2013 Situation Analysis*¹ is a comprehensive report detailing the performance of the northern beef industry. The report identified key information on understanding and improving profit of northern beef businesses. This document extracts from the main report and expands upon the key findings and analysis for beef producers to understand and improve the performance of their businesses.

The main finding of the report was that the majority of northern beef producers are not economically sustainable as they are not generating sufficient profits to fund current and future liabilities. This is not a recent phenomenon with profits before interest on average largely unchanged over 12 years, but profits after interest are trending down due to increased debt with no change in profits.

The summary reports of the financial performance of the northern beef industry are included as Appendix 8.5. The full report contains more detailed information and analysis on the situation than is included here, and is recommended as further reading to this overview at www.mla.com.au/nthbeefsituationanalysis.

What this document will tell you

This document draws on the findings of the report to give producers an understanding of the factors behind the situation, and what can be done to improve their own position.

It will help motivated producers:

- assess and understand their own business and its strengths and weaknesses
- focus efforts by identifying important factors which have a big impact on performance
- remove distractions, by identifying factors which do not have a big influence on business performance
- develop their own roadmap to becoming a 'good business', or a better business.

¹ www.mla.com.au/nthbeefsituationanalysis



The top 25% of northern producers focus on what they can control



They influence their herd productivity by:

- **Reproduction rate**
(↑1% → ↑1.50 kg/AE response)
- **Mortality**
(↓1% → ↑2.28 kg/AE response)
- **Turnoff weight**
(↑1kg → ↑0.18 kg/AE response)

They are business savvy:

- Think differently and independently
- Their property/station is primarily a business and they take a businesslike approach
- They have and stick to a plan
- They actively seek new information, rationally assess it and apply elements of benefit to their business
- They get the simple things right

They influence their operating expenses:

- **Variable costs** on the herd are targeted and effective (\$ returned > \$ spent)
- **Overheads – scale**
(↓costs for herds > 3,000 AE)
- **Overheads – labour efficiency**
(running > 1,500 AE per FTE)

Tools and resources

Cost of production and financial management

- BusinessEDGE is a two-day financial and business management training workshop for northern beef producers. Go to www.futurebeef.com.au for event details.
- *Tips & Tools: Calculating cost of production for your beef enterprise*
www.mla.com.au/calculating-CoP-beef
- The beef cost of production calculator is a tool kit to help beef producers determine their production costs and compare their performance annually.
www.mla.com.au/beefCoP
- The Breedcow and Dynama software package is designed to plan, evaluate and improve the profitability and financial management of extensive beef cattle enterprises.
www.daff.qld.gov.au/business-trade/business-and-trade-services/breedcow-and-dynama-software

Lower mortality

- The breeder mortality calculator assists cattle producers in using their own property records to determine levels of breeder mortality in their herds.
www.mla.com.au/breeder-mortality

Improving productivity

- *Heifer management in northern beef herds manual*
www.mla.com.au/heifermanual
- *Weaner management in northern beef herds manual*
www.mla.com.au/weanermanual
- *Managing the breeder herd – Practical steps to breeding livestock in northern Australia*
www.mla.com.au/breederherd
- *Tips & Tools – The accuracy and success of EBVs*
www.mla.com.au/EBVaccuracy
- Breeding EDGE courses assist producers to develop a breeding program or improve an existing one. It uses reproductive and genetic knowledge and technologies to achieve desired production targets.
- Nutrition EDGE courses cover ruminant nutrition, including minerals and managing deficiencies, pasture growth and quality, and grazing management.
- Grazing Land Management courses allow producers to assess the condition of paddocks, meet target markets while remaining sustainable in the long-term and determine the financial impact of grazing management options.

For details on these three courses go to www.futurebeef.com.au

2. What is a ‘good’ beef business?

A ‘good business’ could be described as one that provides for the needs of its owners and rewards them adequately for the capital invested and time spent in the business. However your needs and what you think is an ‘adequate’ return on time and capital could be quite different to your neighbours.

A more objective way of defining a good business is to look at what it needs to achieve, taking a long-term view. The *Northern Beef Report: 2013 Situation Analysis (NBR)* introduced the concept of economic sustainability and proposes that for a beef business to be considered economically sustainable in the long term it must have the capacity to achieve the following:

- 1. Generate a return that meets or exceeds its cost of capital.** This return-on-capital approach is a fundamental principle of capital investment and beef businesses are very capital intensive. However it has limited appeal to some, whose primary motive may not be generating a return on capital. If this is the case, and all criteria below are met, then it could arguably be omitted.
- 2. Fund all current operating expenses and operational capital expenditure through internally generated working capital.**
- 3. Remunerate its owners adequately, at least to the standard of the average wage earner.**
- 4. Have the capacity to repay debt principal in a timely manner (suggested <10yrs).**
- 5. Maintain a ‘safe’ level of equity (suggested 85% equity or greater).**
- 6. Provide for the independent retirement of the existing owners.** If the owners have been adequately remunerated through their working life (#3), then the business should not need to fund their retirement and this criteria is redundant. This point is also only valid if the business is to continue beyond the current generation and not be sold to fund retirement.
- 7. Be able to survive business succession with the business and the family remaining intact.** This point is only valid if the business is to continue beyond the current generation.
- 8. Survive and prosper in the long term without the erosion of environmental capital (environmental sustainability).**

If a business can achieve all of these it is economically sustainable and can be classed as a ‘good business’. This checklist provides a more objective way of determining what is a good business.

3. Some big picture, or whole business, considerations

3.1. Profit is a number, profitability is a ratio

If a neighbour states they made a profit last year of \$100,000, does this mean they did well or not? While it sounds reasonable and is obviously better than a loss, there isn't enough information to know if it is really good or not. One thing we would want to know is whether the \$100,000 was before or after interest. In this document when profit is referred to it is usually before interest and tax (EBIT). This is done so the performance of the business can be understood independent of financing and ownership.

The critical thing to know is what assets were used to generate that profit, then we can work out how profitable the business was. If they had one million dollars of assets, then it would mean profitability of 10% ($\$100,000/\$1,000,000=10\%$) which is good. If they made the profit from 10 million dollars of assets, then their profitability is only 1% ($\$100,000/\$10,000,000=1\%$).

Profit is a number which, while important, can be meaningless without reference to the amount of assets (capital) used to generate that profit. The profitability figure can be compared to alternative uses of that capital and it is also important when assessing if a business is meeting its cost of capital.

The profitability of a business has huge implications for the wealth of owners, even to those who indicate that return on capital is not important to them. A business achieving a return of 2% a year (after tax with all profits reinvested) will take 35 years to double in size, whereas a business achieving a 7.2% return will double in just 10 years. The second example will find funding succession and retirement much easier than the first.

3.2. Total business return and cost of capital

The primary profitability measure for a beef business is 'total business return', which is the combination of the operating profits of the business, as a percentage of assets, and the annual capital appreciation of the land, as a percentage of assets.

Operating return: The profit of the business expressed as a percentage of the assets used to generate that profit (EBIT/ total assets).

Capital return: The return to the owners of the business from capital appreciation over time (change in land value/ total assets).

Total business return: The return from running and owning the beef business (operating return plus capital return).

A long-term view must be taken for both, particularly capital return, but the total business return should be dominated by operating return, because capital return is mostly windfall gain and is largely outside the control of the owners. Operating return also corresponds with cashflow for the business year to year; capital return only generates cash upon sale of the land.

How do you determine your 'cost of capital'? The capital invested in a beef business is usually comprised of the owners' equity and external finance. The finance component has an obvious

For some producers, profitability is not a primary motivator; lifestyle, educating the children and having a comfortable retirement are more important. However, it is the profitability of the business that will determine if and how these things can happen.

Profitability is not optional for a 'good business' and must be a focus in day-to-day operations, and also in future acquisitions. The more profitable the business, the faster it will grow and the more likely it will be able to:

- meet the needs of the family
- afford and repay debt
- be in a position to take opportunities as they arise.

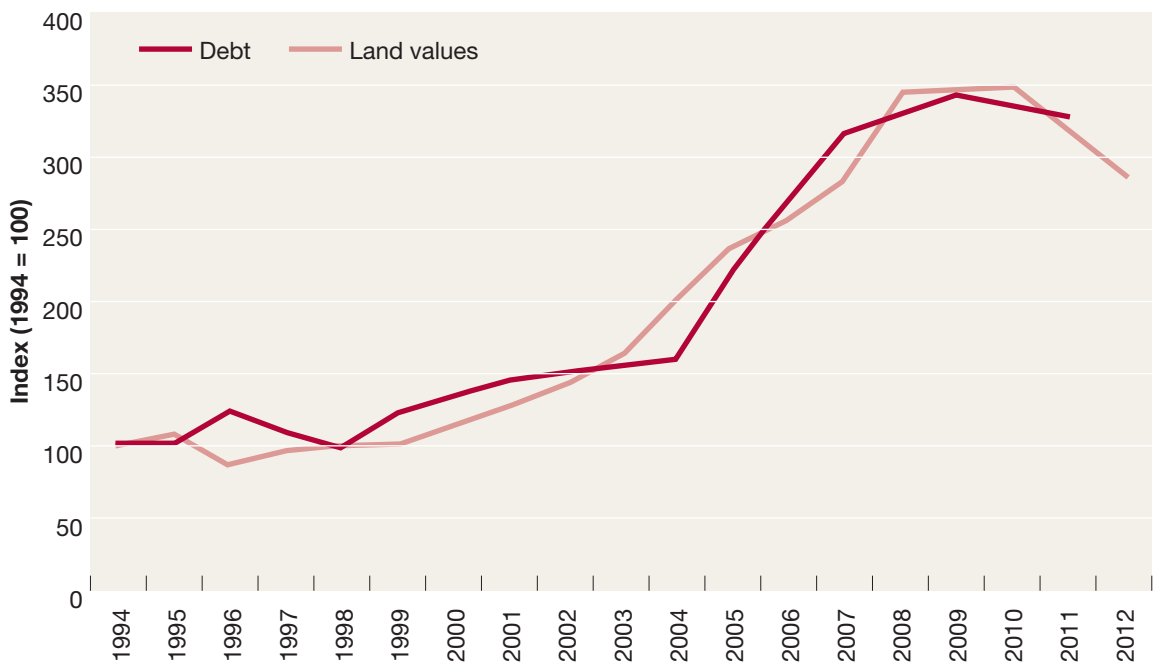
cost, in the form of interest charged. The equity does not always have an obvious cost as interest is usually not paid on it. However, by having that equity invested in the beef business the owners are not able to invest it elsewhere. This ‘opportunity cost’, or the returns forgone from the next best alternative, is the cost of the equity invested. What you could earn on your capital elsewhere and the relative risk of that alternative must be taken into account when determining your cost of capital.

The total business return (what return you are getting on capital invested) is compared against the cost of capital (what the capital invested is costing you) to determine if the business is meeting its cost of capital or not.

3.3. Treating debt with respect

The *NBR* found both debt and land values more than doubled in the late 2000s as shown in Figure 1 below. The average industry profit (before interest) for the 12 years analysed was less than a third of the interest bill, which shows that the industry is carrying more debt than it can afford.

Figure 1: Change in debt and land values (Queensland beef in real terms)



Source: Created with data from Queensland Rural Adjustment Authority debt surveys, ABARES and ABS.

A measure of how well a business can service its debt is interest coverage, which is how many times the cashflow of the business before interest covers the interest bill. For example, if cashflow before interest was \$200,000 and interest was \$100,000 then the interest coverage would be two (or 2:1). A suggested lower limit is four (or 4:1).

As a capital intensive industry generating low relative operating returns, agriculture cannot afford high levels of debt. Table 1 demonstrates this by showing the interest coverage (using EBIT as a proxy for cashflow and an interest rate of 7%) for various corresponding operating returns and equity levels.

Table 1: Interest coverage for various corresponding operating returns and equity levels

		Equity level (equity/total assets)													
		95%	90%	85%	80%	75%	70%	65%	60%	55%	50%				
Operating return (EBIT/total assets)	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.5%	1.4	0.7	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
	1.0%	2.9	1.4	1.0	0.7	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
	1.5%	4.3	2.1	1.4	1.1	0.9	0.7	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4
	2.0%	5.7	2.9	1.9	1.4	1.1	1.0	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6
	2.5%	7.1	3.6	2.4	1.8	1.4	1.2	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.7
	3.0%	8.6	4.3	2.9	2.1	1.7	1.4	1.2	1.1	1.0	1.0	0.9	0.9	0.9	0.9
	3.5%	10.0	5.0	3.3	2.5	2.0	1.7	1.4	1.3	1.3	1.1	1.0	1.0	1.0	1.0
	4.0%	11.4	5.7	3.8	2.9	2.3	1.9	1.6	1.4	1.4	1.3	1.3	1.1	1.1	1.1
	4.5%	12.9	6.4	4.3	3.2	2.6	2.1	1.8	1.6	1.6	1.4	1.3	1.3	1.3	1.3
	5.0%	14.3	7.1	4.8	3.6	2.9	2.4	2.0	1.8	1.8	1.6	1.6	1.4	1.4	1.4
	5.5%	15.7	7.9	5.2	3.9	3.1	2.6	2.2	2.0	2.0	1.7	1.7	1.6	1.6	1.6
	6.0%	17.1	8.6	5.7	4.3	3.4	2.9	2.4	2.1	2.1	1.9	1.9	1.7	1.7	1.7
	6.5%	18.6	9.3	6.2	4.6	3.7	3.1	2.7	2.3	2.3	2.1	2.1	1.9	1.9	1.9
	7.0%	20.0	10.0	6.7	5.0	4.0	3.3	2.9	2.5	2.5	2.2	2.2	2.0	2.0	2.0
	7.5%	21.4	10.7	7.1	5.4	4.3	3.6	3.1	2.7	2.7	2.4	2.4	2.1	2.1	2.1
8.0%	22.9	11.4	7.6	5.7	4.6	3.8	3.3	2.9	2.9	2.5	2.5	2.3	2.3	2.3	

This shows that a business generating a 1.5%² operating return must have at least 95% equity to have an interest coverage of four times, and if it has 75% equity or less, then it will not generate sufficient returns to cover interest. A business with a 4%³ operating return cannot achieve interest coverage of four with less than 90% equity.

An interest coverage of four may seem to be setting the bar high, however it is what is required for a business to have sufficient cashflow remaining after finance costs to develop and fully support the business, achieve the needs of the owners and repay debt.

The closer the coverage gets to one, the closer you are to only paying the interest on debt, with no surplus cashflow. Below one you are in dangerous territory and run the risk of capitalised interest compounding against you and eroding the ability of the business to grow and be viable.

All businesses will still go through periods of volatility where finance coverage is low and equity levels may drop, however these should be temporary not permanent. For debt to be effective and increase wealth, the returns achieved from what that debt is used to fund must exceed the cost of that debt.

The other major consideration for debt is the time that it takes to repay the debt as this has a big influence on the total cost of that debt. The length of time taken to repay debt also influences how often the business can make significant acquisitions and whether it is in a position to take opportunities as they arise.

² The 1,600–5,400 herd size range was used as an example of a ‘typical business’ in the NBR, the average operating return of the 1,600–5,400 head range is 1.3%

³ The operating return of the top 25% in the 1,600–5,400 head range is 3.8%

3.4. Business scale and its importance

Is big better?

Scale is a key factor but is not the only requirement for profitability, as there are a lot of unprofitable large beef businesses and some smaller ones that are highly profitable. Table 2 details the long-term performance by herd size from the *NBR*.

Table 2: Long-term performance by herd size

	200–800hd	800–1,600hd	1,600–5,400hd	5,400hd +
Average performance				
Profit per AE	(\$122.11)	(\$4.24)	\$39.28	\$35.92
Asset Value/AE	\$5,947	\$4,083	\$3,204	\$2,034
Operating Return	(2.5%)	(0.1%)	1.3%	1.9%
Price Received (\$/ kg LW)	\$1.76	\$1.78	\$1.77	\$1.76
Cost of Production (\$/kg LW)	\$2.89	\$1.82	\$1.41	\$1.31
Operating Margin (\$/kg LW)	(\$1.13)	(\$0.04)	\$0.36	\$0.46
Top 25% Performance				
Profit per AE	(\$13.71)	\$50.74	\$91.46	\$75.43
Asset Value /AE	\$5,732	\$3,975	\$2,671	\$1,502
Operating Return	(0.3%)	1.6%	3.8%	5.3%
Price Received (\$/kg LW)	\$1.78	\$1.83	\$1.78	\$1.82
Cost of Production (\$/kg LW)	\$1.88	\$1.45	\$1.06	\$0.97
Operating Margin (\$/kg LW)	(\$0.10)	\$0.38	\$0.72	\$0.85

The above information shows a number of important things:

- Scale is a major constraint in the two smaller groups, with average producers recording a loss before interest and tax.
- The second largest group has the highest herd profits (1,600 to 5,400hd) not the largest group.
- The largest group has the highest profitability (operating return) due to having less asset value invested per AE. There is likely a regional influence in this, but it demonstrates the importance of asset values on the profitability of the business.
- There is a significant difference between the average and top 25% performers in each group. This difference is so great that the top 25% producers in the second smallest group (800 to 1,600), which is constrained by scale, are making higher herd profits than the average producers in the two largest groups.

Analysing the difference between the average and top 25% performance within herd size ranges identifies the following factors that consistently separate the top performers:

- Higher income per AE through better productivity (kg beef/AE) caused by:
 - > higher reproductive rates
 - > lower mortality rates
 - > better sale weights (except 5,400 head + where scale is a factor)
- Lower enterprise expenses per AE
- Better labour efficiency contributing to lower overhead expenses per AE
- Lower asset values per AE, meaning equivalent profits per AE equate to higher profitability.

While scale does have a big effect on profits, more detailed analysis of the data above and individual business analysis has identified that for businesses where lack of scale and low productivity are issues, they are better off prioritising improving performance over increasing scale. When performance is improved the benefits of increased scale are greater, and the business will be better able to fund that increase.

If you intend to increase scale, you should focus on performance in the following areas:

- maximising the productivity of the herd
- optimising the return from enterprise expenses
- optimising labour efficiency.

If scale is increased without a focus on the above, it will likely make poor business performance worse, rather than more profitable.

How big can you be?

Even after improving performance at current scale, lack of scale will remain a constraint for a large number of producers and increasing scale may be necessary strategy.

To make decisions around how ‘big’ you should be, it is important to know both the carrying capacity of your land and the condition it is in. Business scale is usually limited in the short term by the carrying capacity of the area under management. Land improvements and/or infrastructure development can be used to increase carrying capacity, but ultimately carrying capacity is the main limiting factor. Carrying capacity is influenced greatly by the land condition. Land in ‘poor condition’ (condition C, on the grazing land management scale of A-D) can carry less than half the stock of country in ‘good condition’ (condition A).

Exceeding the carrying capacity of the land resource for extended periods will come at the expense of land condition, and eventually reduce carrying capacity. Annual feed budgeting will allow you to manage the seasonal variability and strategically manage stocking rate over the long-term.

Longer term, the size of the business does not need to be constrained by the carrying capacity of the current land under management. Land can be purchased, leased or agisted to increase scale. The option or ability to purchase will depend on available capital, whereas leasing or agisting can be an effective way to increase scale with minimal additional capital, if it is priced and structured correctly. If leasing or agistment is not priced and structured correctly then it can be an effective way to erode capital. The decision on which is the best option for your business requires a great deal of detailed analysis and careful planning to ensure it benefits your business.



The EDGE Grazing Land Management (GLM) workshop contains valuable information to help you understand carrying capacity, land condition and feed budgeting.

www.mla.com.au/edgenetwork

Bigger isn't necessarily better. Scale in northern beef production is one of the important factors that influence performance, but in itself it is not enough to guarantee success. For most businesses, improving performance at the current scale will deliver more benefits than attempting to increase scale.

What if you can never get 'big'?

For some 'small' beef businesses the ability to increase scale might not be an option due to lack of capital and/or lack of available, affordable land. If you are, for example, a 1,000AE business, with no capacity to buy additional land or cost effectively lease land, then it is unlikely that your business will be able to provide for all the needs of your family, no matter how hard you work.

It then becomes a pursuit of a passion or a lifestyle choice to continue to operate a small herd. Acknowledging this will enable off-farm income to be pursued to ensure the needs of your family are met and allow you to also operate the herd. Maximising productivity, optimising enterprise expenses and improving labour efficiency are still important and will improve the herd performance, but are unlikely to be enough to make it a stand-alone business that will provide for all the needs of you and your family.

3.5. Learning to stand aside when all around you are buying land at ridiculous prices

Profitability is calculated by dividing profit by assets. Therefore there are two ways for it to be increased; either through higher profits or lower asset values.

The means to increase profits are detailed in this document. Whilst the value of land already owned is largely outside your control, what you pay for future purchases will have a big impact on the future profitability of your business. The *NBR* showed the producers with the highest profitability didn't just have high profits per AE, they had high profits and lower asset values.

Table 3 shows the operating return for corresponding herd profits and total asset values per AE.

Let's presume you are a top 25% producer looking to buy the property next door. After doing your sums on productivity, income and incremental costs, you estimate you could generate an \$80 profit per AE (before interest and tax) from the property and you require an operating return of at least 5% from your investment. Using the table below, you cannot afford to have much more than \$1,500 in total assets invested per AE (\$1,600 per AE in assets and a profit of \$80 per AE equate to a 5% return). Herd value and plant and equipment value per AE vary but average a little over \$600, meaning the property (bare of stock and plant) is worth around \$1,000 per AE to you. If you buy it for that, and your profit estimates are correct, you will achieve your 5% return.

Table 3: Operating return for corresponding herd profits and total asset values per AE

		Total Asset Value/AE (land + cattle + plant)								
		\$1,000	\$1,250	\$1,500	\$1,750	\$2,000	\$2,250	\$2,500	\$2,750	\$3,000
Profit/AE	\$10	1.0%	0.8%	0.7%	0.6%	0.5%	0.4%	0.4%	0.4%	0.3%
	\$20	2.0%	1.6%	1.3%	1.1%	1.0%	0.9%	0.8%	0.7%	0.7%
	\$30	3.0%	2.4%	2.0%	1.7%	1.5%	1.3%	1.2%	1.1%	1.0%
	\$40	4.0%	3.2%	2.7%	2.3%	2.0%	1.8%	1.6%	1.5%	1.3%
	\$50	5.0%	4.0%	3.3%	2.9%	2.5%	2.2%	2.0%	1.8%	1.7%
	\$60	6.0%	4.8%	4.0%	3.4%	3.0%	2.7%	2.4%	2.2%	2.0%
	\$70	7.0%	5.6%	4.7%	4.0%	3.5%	3.1%	2.8%	2.5%	2.3%
	\$80	8.0%	6.4%	5.3%	4.6%	4.0%	3.6%	3.2%	2.9%	2.7%
	\$90	9.0%	7.2%	6.0%	5.1%	4.5%	4.0%	3.6%	3.3%	3.0%
	\$100	10.0%	8.0%	6.7%	5.7%	5.0%	4.4%	4.0%	3.6%	3.3%

So what happens if you get carried away on auction day? The auctioneer tells you it's a once in a lifetime opportunity to buy a blue ribbon property and the neighbour that doesn't check his fences or return stock is bidding. You end up buying it for \$3,000/AE with stock and plant. If your estimates of an \$80 per AE profit, which is a reasonably high profit, are accurate and you have \$3,000 of total assets invested per AE, then the profitability of your purchase will be less than 3%, and you locked that in on auction day.

The economic value of an asset is a function of its future earning capacity.

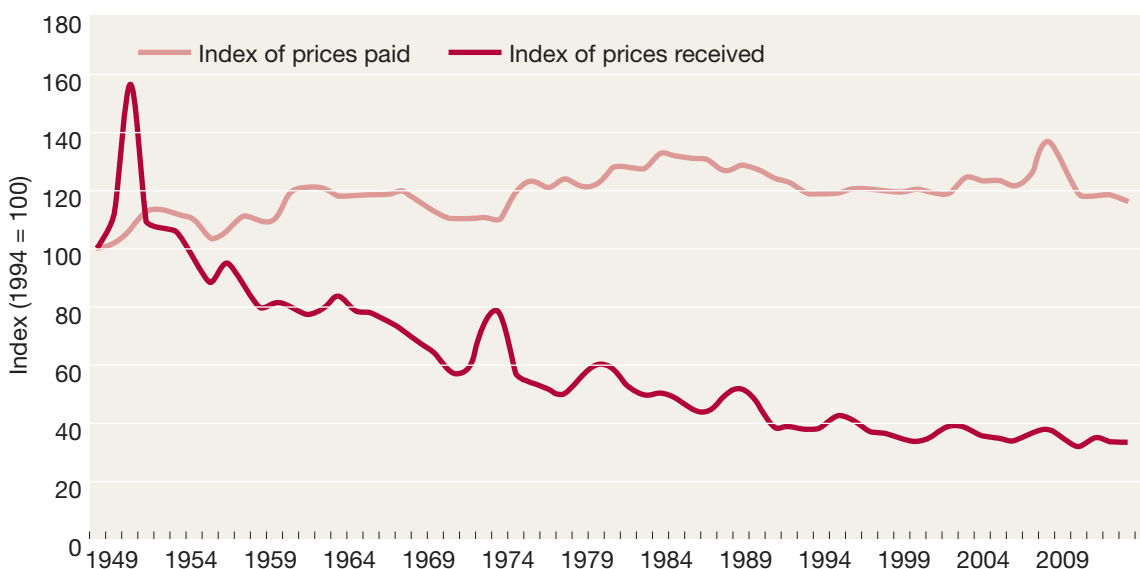
3.6. Declining terms of trade

A discussion on the profitability of beef businesses would not be complete without addressing the elephant in the room, which is declining terms of trade.

There is an often-quoted reality in agriculture: "The prices I'm getting have not changed much in the last 20 years, but all my costs have gone through the roof." This is true and a look through your old cheque books and account sales will show this clearly.

However when the prices you pay and prices received are adjusted for inflation, to compare similar purchasing power over time, it shows costs have not increased by much more than inflation, on average, while prices received have declined significantly. This is shown in Figure 2 below. Whichever way it is analysed (with or without inflation), the gap is widening at just under 2% a year; this is declining terms of trade, or the cost-price squeeze.

Figure 2: Index of prices paid and prices received by Australian farmers (real terms)



Source: Created with data from ABARES and ABS.

Declining terms of trade is an inherent feature of commodities, particularly agricultural commodities. As production increases through new practices, new technology, or more producers, supply of the commodity increases more than demand, which results in a decrease in real prices.

Declining terms of trade can only really be addressed in two ways. The first is by increasing demand for the commodity and for this increase in demand to be more than the increase in supply, causing a price increase. The second is for individual producers to strive for productivity improvements to stay ahead of declining terms of trade. Of the two, the latter is within the control of individual producers and therefore should be the priority.

The NBR identified the large spread in productivity achieved by producers and some means for improvement. For starters, a good genetic improvement program can achieve a 2% annual increase in productivity.

4. The engine room of a beef business: the herd

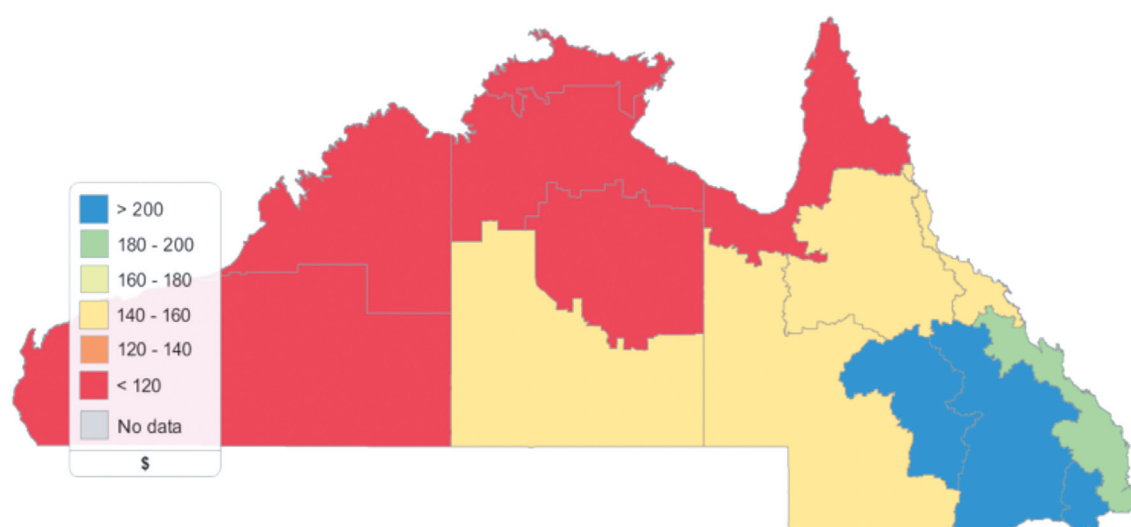
When analysing a livestock business a choice must be made on what the fundamental unit of measurement is, either per animal unit (AE/DSE) or on an area basis (km²/ha). In the majority of southern Australia, measuring in land area is more appropriate because stocking rate is a driver that can be managed, and business performance can be optimised when per ha performance is maximised. For the north, the animal unit is the most appropriate measure. This is because the carrying capacity of the land is the primary limiting factor. Stocking rate is less of a driver in the north and land condition and business performance are adversely affected if stocking exceeds the long term carrying capacity, subject to seasonal variations. Therefore the focus should be on per animal unit performance. This is because business performance will be maximised when the per animal performance is optimised, if the business is stocked at its long-term carrying capacity. Knowing, maximising where possible, and effectively utilising your long-term carrying capacity is important for producers.

The question then is, 'where is the line between 'southern' and 'northern'? In reality it will not be a clear latitudinal line and some of the region defined as north in this document (QLD, NT and top of WA) may be able to adopt a per hectare approach. For the vast majority of the north however, the animal unit (Adult Equivalent) is the most appropriate measure.

4.1. How much is the herd earning (income per AE)?

Figure 3 shows the long-term average income or gross profit (gross sales adjusted for purchases and inventory change) per AE from the *NBR*. As may be expected the regions in the south-east have higher income per AE on average, as they are the more productive regions. Income is important, but is only one part of the profit equation.

Figure 3: Regional average income per AE



The income of the herd, when looked at on an AE basis, is the function of two things:

- herd productivity, or the amount of beef produced per AE
- the income received per kilogram of beef produced.

Beef prices are an important component, but usually get more attention than they deserve. The general expectation is that higher beef prices mean higher income and higher profits. However when different herds, or groups of herds, are compared this is not the case. Figure 4 graphs the average income per kg and corresponding income per AE of beef herds from the *NBR* data and shows there is no obvious relationship. This seems counter intuitive and is a critical point in understanding what drives the profit of a beef business.

Figure 4: Relationship between income per kilogram of beef (LW) and income per AE



The strong relationship between cost of production and profit in Figure 11 compared to this graph highlights why CoP is the focus.

Source: Northern Beef Report: 2013 situation analysis

Income per kg is largely determined by the level of the general market and, when the market is down, herd incomes are down and vice versa. However through all stages of the beef price cycle it is those that produce the most beef (per AE) that have the highest income (per AE).

A higher average price received within a market does not necessarily mean the business will achieve higher profits. There are a couple of reasons for this:

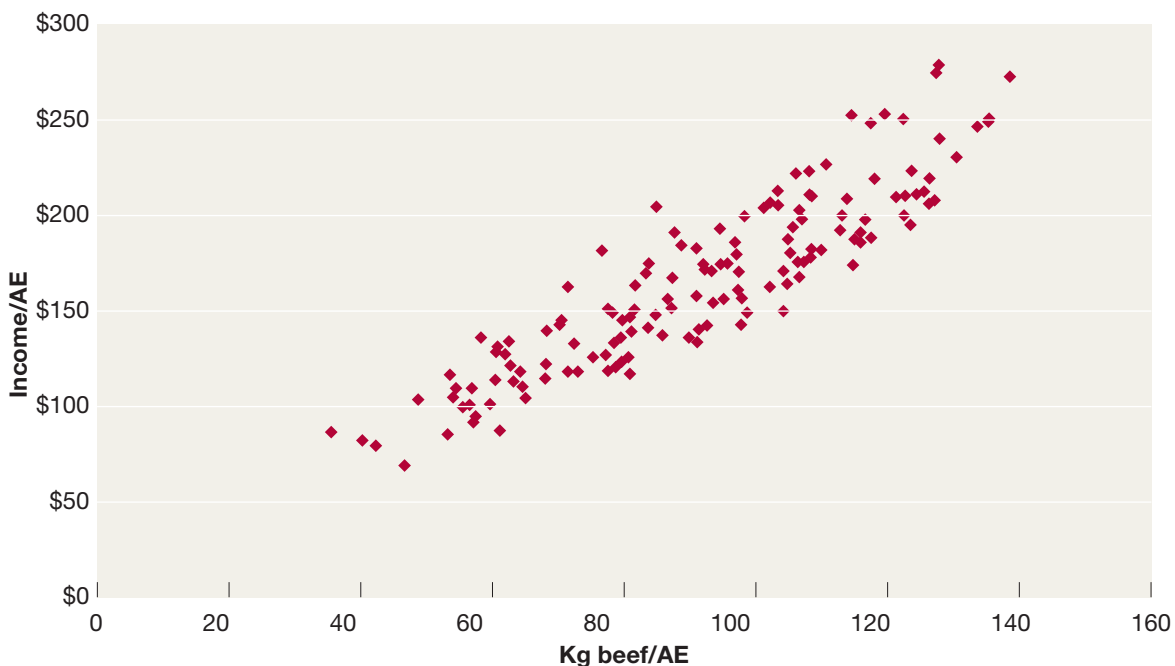
1. Pursuing market premiums can result in less kilograms being produced through sale of lighter animals or higher costs through compliance, either or both of which can erode the benefit of the higher price received.
2. Better managed northern herds with considerable annual female sales often have lower average price received as a result. However they sell more kilograms, have higher revenue and more profit as a result.

There is much more variation in productivity between herds than there is in price received. Productivity is a function of management and price received is largely outside the control of management. However it is important to understand and meet the specifications of the market you are producing for, although producing for the right market is arguably more important. Beyond that, price received is not a profit driver you can focus on to increase your returns and is largely a distraction.

...through all stages of the beef price cycle it is those that produce the most beef (per AE) that have the highest income (per AE).

The income of a beef business is determined by how much beef it produces and therefore this is where attention should be focused. The productivity of the herd is measured in terms of kilograms of beef produced per AE per year (kg beef/AE). Figure 5 graphs the relationship between kg beef/AE and income/AE using exactly the same data as in Figure 4. Here the relationship is clear, as herd productivity increases along the bottom axis, herd income increases along the vertical axis.

Figure 5: Relationship between herd productivity and income



The kilograms of beef produced per adult equivalent per year (kg beef/AE) is a measure of how efficient your beef business is (and how efficient you are as a manager) at turning grass into beef. It is the key productivity measure for a beef business and has a big influence on income, as seen in Figure 5, and on cost of production, as discussed in section 4.4.



Understanding and improving herd productivity

The four practical means to influence productivity, assuming stocking rate is kept relatively constant, are:

- 1. Improving the reproductive rate.** Measured as the number of weaners produced per 100 cows retained for breeding. A breeding-age female consumes a lot of feed in a year, whether she has a calf or not. When she is fully grown, producing a weaner increases her feed requirements by around 30%, so whether she produces a weaner on average every 12, 18 or 24 months has a big impact on your beef factory's efficiency.
- 2. Decreasing the mortality rate.** Breeder deaths mean wastage of significant inputs (both grass and operating costs) in their breeding and growing.
- 3. Increasing the turnoff weight through longer retention, better nutrition, or both.** This is easily improved in the short term through longer retention. Longer term, the aim should be to maximise sale weight (subject to available market and capability of country) in the shortest time. Growing out progeny for longer to improve sale weights will require a reduction in breeder numbers to make room. This is often perceived as a negative as less calves are being produced, but it offers many advantages to the business, including:
 - > Increased kilograms of beef produced as growing animals convert grass into beef more efficiently than breeding animals.
 - > Decreased costs, as most of the effort and costs of a breeding business are tied up with the breeders. Once growing animals are weaned, treated and turned out to the back paddock, they require little ongoing time or money, relative to breeders.
 - > When there are a number of age groups of growing animals, less of your total numbers are breeders. This means in times of drought you have more groups of cattle to sell down before you have to sell down breeders, which can reduce the long-term effect of drought on herd performance. Conversely, when the drought ends, it takes longer to rebuild the male inventory.
 - > Focusing on the reproductive rate and mortality rate of breeders will increase weaner production, potentially giving you more from less.

Sale weight does not only apply to male turnoff. Increasing the weight and value of cull and surplus females also has a big influence on herd productivity and business profits.

- 4. Improving genetics:** Genetics and management determine a herd's performance on all the measures above, subject to regional constraints and through all seasonal variations. Top-performing producers are using the significant amount of objective information available to ensure the genetics they buy improve the performance of their herd in the areas that matter. They also ensure their bulls are in working order and capable of passing those genetics on.

If you buy bulls without objective data, you have no way of knowing if they will improve, maintain or even degrade the merit of your herd's genetic base.

A bull will generally produce around 25 times more calves than a cow will over their respective lifetimes. This gives an indication of the relative importance that should be placed on the selection of each in the herd.



The CashCow report and the Breeder Cow Mortality report contain very good information on the actual performance of northern herds and provide guidance on assessing and improving your own performance. www.mla.com.au/cashcow and www.mla.com.au/breederdeath

When the truck is loaded and heading to market, price received is very important and every extra cent goes straight to your bottom line. However, on the production side of the loading ramp, focusing on getting as many kilograms of beef trucked out, over the long-term, will do more for your bottom line than a focus on price received will. There is a lot that can be done to improve productivity and a lot of room for improvement in northern herds, which means there is significant opportunity to increase income.

Which one do you address first?

Improvements in each of the components of a business influence the others and they have a compounding effect on overall performance so you should seek to optimise performance in each of them.

However, to determine which to focus the most attention on first, a good understanding of current herd performance is required. Most producers generally have an idea of how many cattle are owned, but don't have an accurate estimate of what the weaning percentage is each year or what the annual mortality rate is. Many producers would quote the 'socially acceptable' figures of over 80% for reproduction and less than 2% deaths for their herd.

The CashCow report (B.NBP.0382)⁴ and breeder cow mortality report (B.NBP.0664)⁵ were conducted to quantify actual performance across the north for these areas of herd and business performance. They found the actual data is far different from these commonly quoted figures and contain very useful information for motivated producers to quantify and improve their performance.

Genetics can be changed easily and quite cheaply as better genetics are not always more expensive. While the results do take time to flow through the herd, the sooner you start the sooner you will reap the rewards. Sale weight is also easily increased in the short term, through longer on-property retention, although there are cashflow implications to this which should be considered as it is done.

How much difference will improvements make?

The first three components above can be quantified and this was done in the *NBR*. The impact of each component on herd productivity was determined and is outlined in Table 4.

Table 4: Impact of changes to reproductive rate, mortality rate and sale weight on productivity

Variable	Change (percentage points)	Kg beef/AE response
Increase reproductive %	1%	1.50
Decrease mortality %	1%	2.28
Increase sale weight	1kg	0.18

This provides an indication of how changes in each of these measures impact the productivity of the herd. For instance, an increase in reproductive rate of 1% (an extra weaner per 100 females) will increase overall herd productivity by around 1.5kg beef/AE. A decrease in mortality of 1% (e.g. from 6% to 5%) will increase productivity by 2.3kg beef/AE and an increase in average sale weight of 10kg will increase productivity by 1.8kg beef/AE.

This information, along with accurate information on current performance, will allow you to prioritise areas for improvement as well as perform a cost-benefit analysis of different strategies.

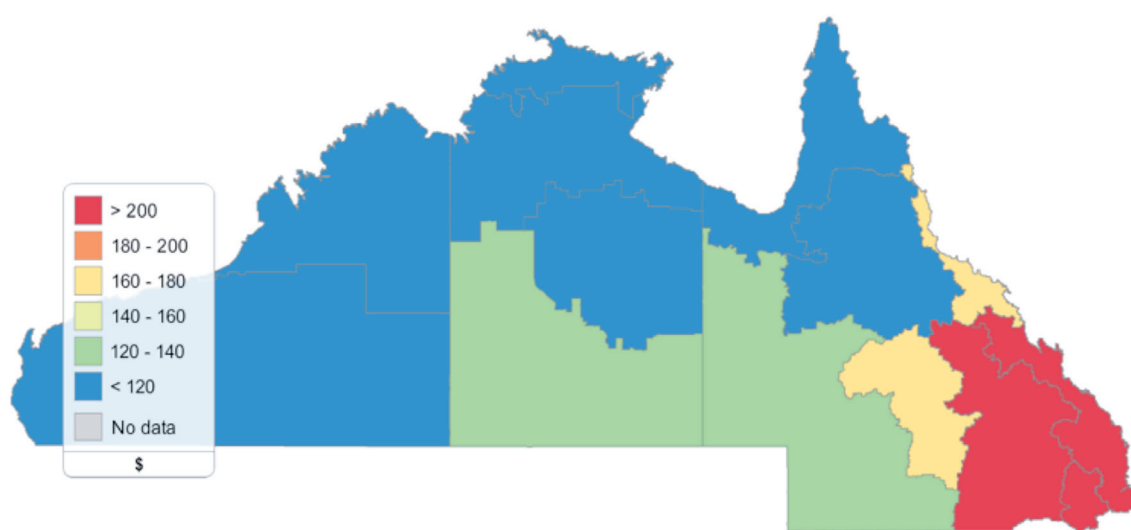
⁴ Northern Australian beef fertility project: CashCow www.mla.com.au/cashcow

⁵ Determining property-level rates of breeder cow mortality in northern Australia www.mla.com.au/breederdeath

4.2. How much is the herd costing (operating expenses per AE)

Figure 6 shows the long-term average total operating expenses per AE from the *NBR*. This is almost the inverse of Figure 3. The regions in the south-east that had high income (due to high productivity) have high operating expenses, due primarily to lack of scale. As you get further north and west into more extensive regions, expenses per AE reduce, due to increased scale and lower input regions.

Figure 6: Regional average operating costs



The BusinessEDGE workshop helps producers understand and manage all financial aspects of their business, including the cost structure detailed here.

www.mla.com.au/edgenetwork

What is the difference between a herd enterprise expense and an overhead expense?

The money you spend on your beef business can be classified under the following broad headings:

- operating expenses
- capital expenditure
- taxation costs
- > enterprise expenses
- finance costs
- provisioning.
- > overhead expenses
- owner costs

Having your financial information structured like this will allow you to understand and manage your cost structure much better. The below section focuses on just the operating expenses of a beef business, however all are important.

The operating expenses are split into Enterprise expenses, which is money spent directly on the herd (animal health, supplements, fodder etc), and Overhead expenses, which are general running costs of the business (wages, rates, administration etc.). Separation of these costs is an important distinction, even for a single-enterprise beef business, as it allows the operating cost structure to be better understood and managed.

How much should you be spending directly on the herd and does it matter?

Enterprise expenses are also referred to as direct or variable costs and the terms are interchangeable. The amount of money spent directly on the herd is important, but more important is where it is spent and what you get back in return.

The *NBR* found the top 25% producers had lower enterprise expenses and higher productivity than the average, with the average figures for the whole of the north detailed in Table 5.

Table 5: Enterprise expenses (\$/AE) and productivity (kg beef/AE) for top 25% and average producers

	Average	Top 25%
Enterprise Expenses (\$/AE)	\$36.08	\$29.75
Productivity (kg beef/AE)	97.4	105.9



The **EDGE** products, particularly **NutritionEDGE** and **BreedingEDGE**, contain valuable information to help you identify how to optimise your spend on the herd.

www.mla.com.au/edgenetwork

This means the money they spent on their herd was more targeted and effective, and not that they simply spent less. The main area of difference was on fodder and supplements, accounting for most of the difference. It is not known exactly what this relates to, but is likely to be a combination of the top performers being more targeted with fodder and supplements, ensuring the production benefit exceeds the cost, and better budgeting and planning for drought resulting in reduced requirements to feed stock. Knowing and stocking to carrying capacity, along with use of feed budgets, will help optimise the expenditure on fodder and supplements.

Where to spend money on the herd, and where not to, is specific to your business, region and production system. However the universal principle involves identifying areas where every dollar spent gives more than one dollar back and spending the right amount of money in those areas, as well as identifying areas where a dollar spent does not give a dollar back, and not spending in those areas.

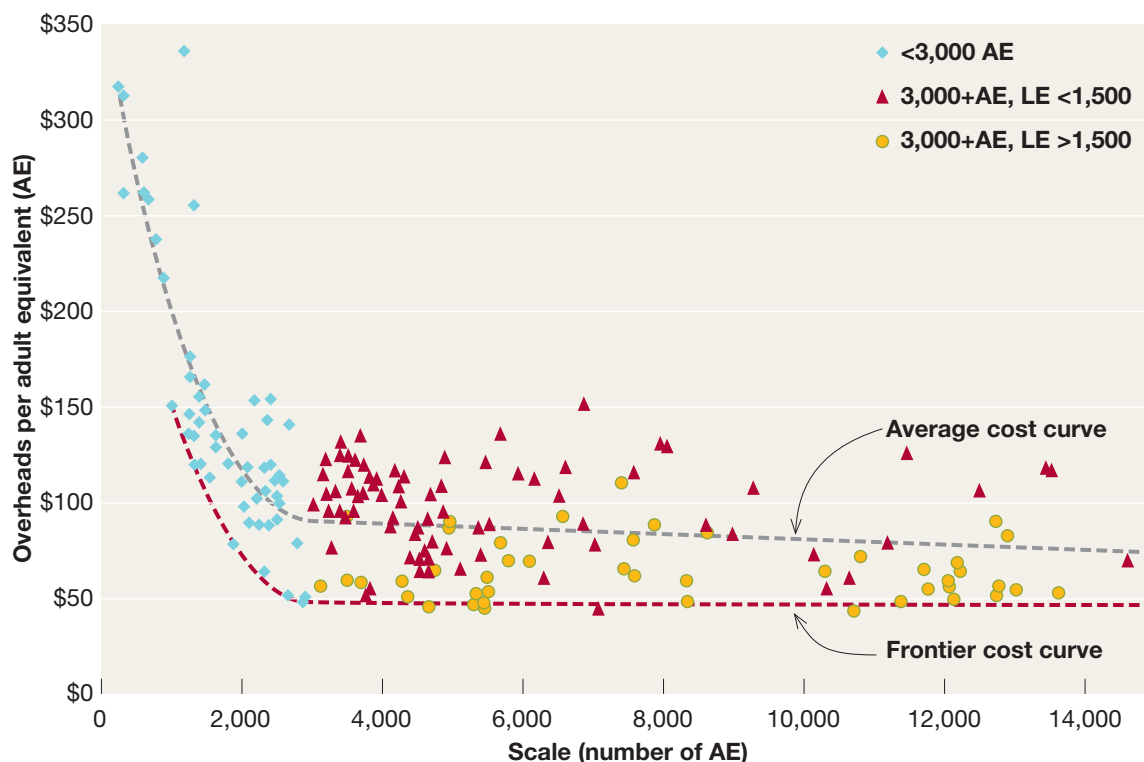
Overheads versus fixed costs

Overhead expenses are also sometimes referred to as fixed costs and while a lot of them are largely fixed, they are not all truly fixed. Analysis of overhead expenses in the *NBR* found there are two main determinants of what a business's overhead expenses are (per AE), namely operating scale and labour efficiency.

Operating scale is the number of AE run by the business and is an important variable in the business. When herds smaller than 3,000 AE are analysed, operating scale is the main determinant of overhead expenses per AE, with average overhead expenses decreasing as scale increases. This is a result of largely fixed costs being spread over more AE, which lowers the cost per AE.

This is shown in Figure 7, which is based on data from the *NBR*. The blue dots on the left are businesses less than 3,000 AE. As these businesses get bigger, overhead costs come down steeply. This is referred to as increasing economies of scale. Beyond 3,000 AE though, the benefits of additional scale are minimal; this is constant economies of scale.

Figure 7: Relationship between scale, labour efficiency (LE) and overheads per AE



Businesses over 3,000 AE have been divided into those with good labour efficiency (running more than 1,500 AE per full-time equivalent, orange circles) and those with poor labour efficiency (running less than 1,500 AE per full-time equivalent, red triangles). 82% of those with good labour efficiency (orange circles) are below the average line and 70% of those with poor labour efficiency (red triangles) are above the average line.

This indicates that once a business has sufficient scale, the labour efficiency of a business is the main determinant of overhead costs. Labour efficiency is still important in smaller herds, and will influence whether their costs are high or low for their scale, but good labour efficiency is not enough to overcome the lack of scale. This is shown by the frontier cost curve in Figure 7.

Figure 7 also shows that, depending on labour efficiency and other factors, overhead costs are going to increase by at least \$50 per AE as herd size increases. They should not, therefore, be treated as fixed costs.

It should be made clear that 3,000 AE appears to be the point where increasing economies of scale cease with regard to overhead expenses. It does not mean, and should not be interpreted as meaning, that herds with less than 3,000 AE cannot be profitable. They can be, just as there are many herds with greater than 3,000 AE that are not profitable. However for herds under 3,000AE to be profitable they must compensate for their lack of scale by having low overheads (labour efficiency), optimised enterprise expenses and high productivity.

The importance of labour efficiency

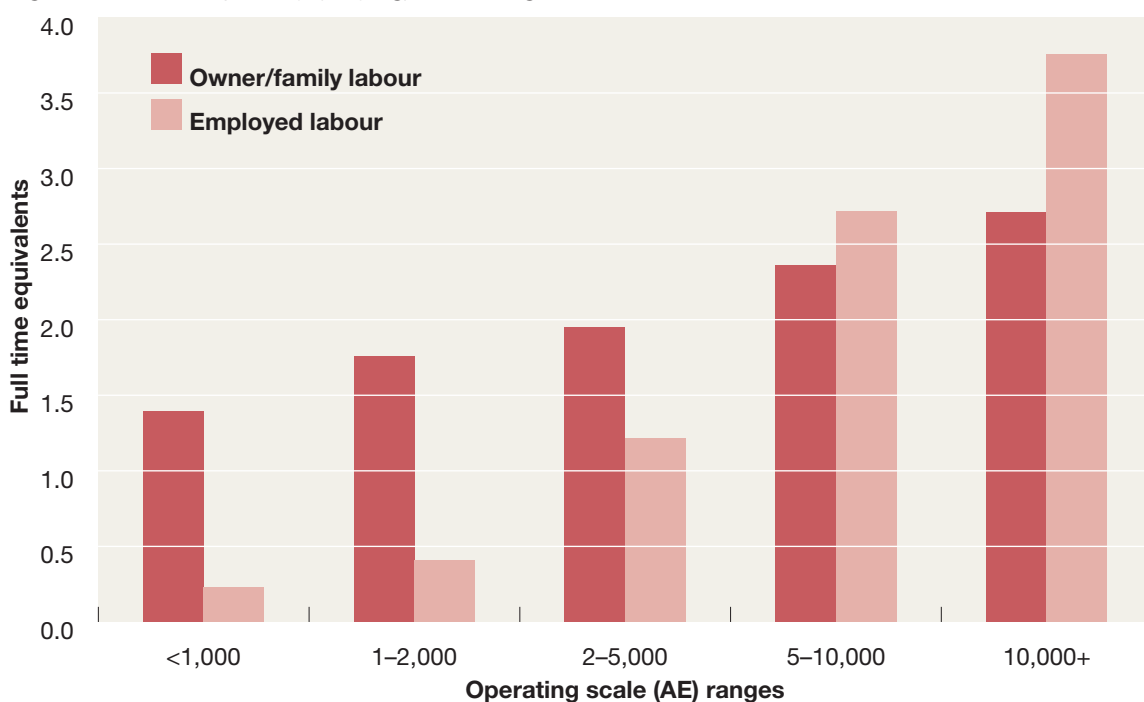
Labour efficiency is a critical measure, as detailed above. It is calculated by totalling all the labour used in the business (including contractors, part-time workers, unpaid family labour, administration, etc.) to work out the total number of full-time equivalents (FTE) used in the business. The total number of AE run is then divided by this to give the number of AE per FTE.

A common question is whether owner or family labour should be included in calculating this, particularly if a wage is not being paid. The answer is yes, for a couple of critical reasons. Firstly, if a cost is not being put on owner wages then the performance of the business is overstated by the amount the business is being subsidised through unpaid labour. In the *NBR* and in private benchmarking, an 'owner wages' figure of about \$100,000 is included for a couple working in the business full time. It can be, and is, argued by producers that this figure is both too high and too low. For context, the average Australian full-time ordinary earnings were \$80,000 for males and \$66,000 for females (Bureau of Statistics, March 2014). As managers of multi-million dollar businesses, a realistic value needs to be put on owners' wages.

The second reason owner labour is included is that labour used by the business has implications right through the cost structure of the business. Whenever a worker goes out to work, whether employed or owner, they need vehicles, equipment, fuel, stores etc. This adds to the administration, depreciation and repairs and maintenance costs of the business. In fact, if you look at the cost structure of a beef business, around 50% of the total operating costs are those that will fluctuate with the number of workers.

Economies of scale and labour efficiency are interconnected by owner labour, specifically the fixity of owner labour. Although usually an imputed cost, owner wages are the single biggest operating cost item in the cost structure of most northern beef businesses. Figure 8 shows the owner/family labour and employed labour of beef businesses as scale increases.

Figure 8: Labour inputs by (varying) scale range



The owner/family labour is relatively fixed, going from just under 1.5 FTE's to just over 2.5 FTE's across the entire scale range, whereas employed labour is much more variable. While not responsible for all of it, this explains a lot of the scale problems for smaller businesses. The smaller businesses are not big enough to efficiently utilise the fixed owner labour units. While the owners of smaller herds would be busy in their businesses, it is likely they could manage significantly more cattle without requiring much additional labour.

The labour efficiency target of businesses should be a minimum of 1,500 AE per FTE. The fixed owner labour input of around 2 FTE's multiplied by the recommended labour efficiency of 1,500 AE/FTE matches up with the 3,000 AE size with relation to costs above.

Labour efficiency is not improved by not employing staff and trying to do it all yourself. It will be enterprise and regionally specific, but it is important to ask the question of how the labour required to run your beef business can be reduced, while still ensuring everything that needs to be done can be done and for you to have a life. Some areas to look at initially are:

- 1. Substituting labour for capital.** Can labour requirements be permanently and cost effectively lowered through improved infrastructure such as lane ways, traps and technology?
- 2. Management calendar.** When is labour needed through the year and what for? What are the critical things that need to be done and when? Can the management calendar be changed to remove or combine areas without affecting the business?
- 3. Cutting out wasteful practises.** A lot of time can be spent doing things that aren't productive; these need to be ruthlessly culled.
- 4. Quality workforce.** Quality and experienced or upskilled staff will often achieve more in a day than inexperienced staff.

The good news is labour efficiency can be improved regardless of scale, as small businesses can have good labour efficiency. It may mean the business is not big enough to employ one or both owner/family members full time, which presents opportunities for increasing off-farm income.

It is important to have a good understanding of the cost structure of your business and to identify areas where you can make improvements and where you can't. However, beyond optimising enterprise expenses and improving labour efficiency there is little that can be done and simply cutting costs can be detrimental to the business.



4.3. How much is the herd making (profit per AE)?

Figure 9 shows the long-term average profits (before interest and tax) per AE by region from the *NBR*. It can be seen the regions with the highest incomes do not have the highest profits, neither do the regions with the lowest costs. Profit is the function of both income and costs and, as discussed above, different things affect both. More important than the profit differences between regions is the profit differences within regions. Figure 10 shows the long-term profits of the top 25% producers in each region (no data available for Pilbara).

Figure 9: Regional average income, costs and profits (per AE)

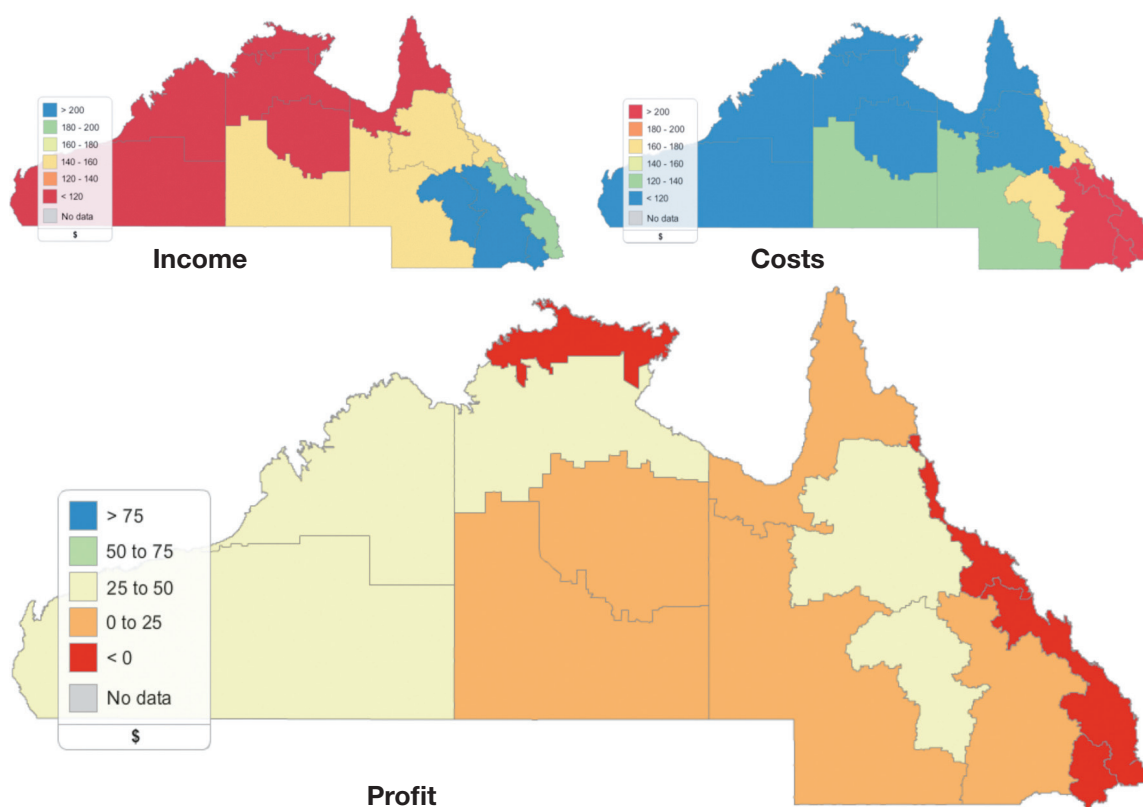
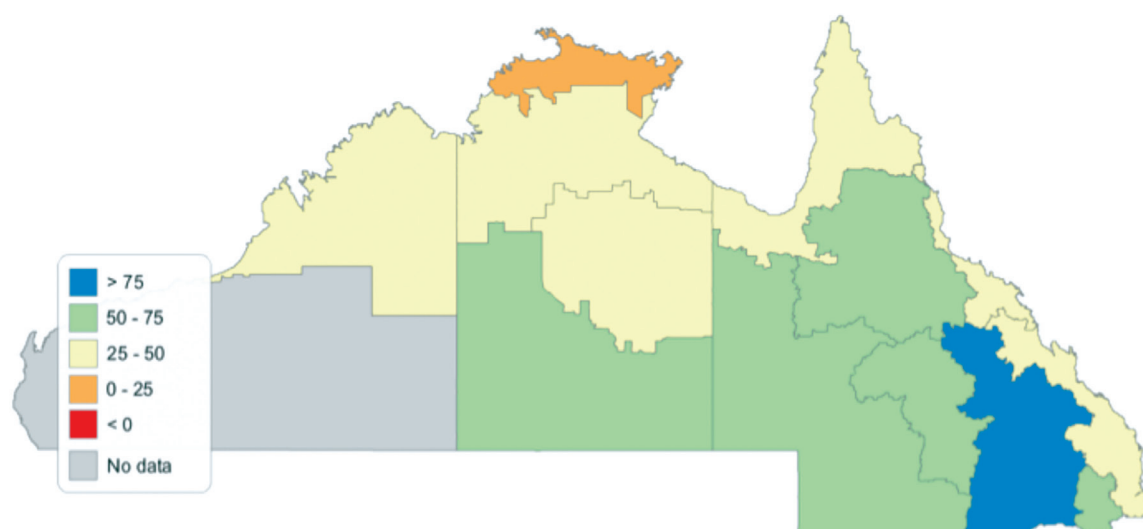


Figure 10: Regional top 25% profits (per AE)



This shows there is a significant difference within regions on how much producers are making. In fact, across the north, the top 25% producers are making more money than the other 75% combined.

What are the top producers doing differently?

The top 25% producers are making more than the other 75% because:

- they think differently and independently
- their property or station is primarily a business and they are businesslike in their approach
- they focus on the things they can control within their boundary fence, rather than be victims to things they can't control
- they have and stick to a plan, ignoring fads, red herrings and silver bullets along the way
- they actively seek out new information, rationally assess all of it, and then apply elements that will be of benefit to their business
- they get the simple things right.

As a result they achieve:

- a higher income per AE through better productivity (kg beef/AE)
- lower and better targeted enterprise expenses per AE
- better labour efficiency contributing to lower overhead expenses per AE.

Within regional constraints and across all seasonal variations, these factors are a function of management. The sections above provide more information on each of these points.

In summary, superior long-term performance is largely a function of management, which is a difficult measure to quantify, but its impact is clear.

Top producers think independently, have a business focus, stick to their plan and get the simple things right.



Profit is a function of both income and costs and both are important. Differences in income explain more of the difference between top and average producers. The top producers are making more money because they produce more beef from a more effective cost base.

4.4. Critical Key Performance Indicators (KPIs) for a beef business

KPIs provide information on how different aspects of the business and herd are performing and, when looked at collectively over time, can identify trends, strengths and weaknesses of the business. They provide insight into the performance of the business and the underlying factors determining that performance.

The most important KPI, from a business perspective, is total business return, as it is the total return on capital employed and can be compared to alternative uses of that capital. From a management perspective, operating return is arguably more important as it is the result of business operations and within the control of managers.

At herd level profit per AE or profit per kilogram of beef produced (operating margin) are key performance indicators. Operating margin (income per kg less cost of production) is important as it is the operating profit achieved on your main product, kilograms of beef. However a high operating margin is invariably achieved through a low cost of production (CoP) and not high price received.

Cost of production

Figure 11 shows clearly the relationship between cost of production and profit per AE. As cost of production falls (going from right to left on bottom axis) profit increases (going up the vertical axis).

Figure 12 shows the distribution of cost of production across the northern beef industry and that, for a lot of the industry, the cost of production is high.

Figure 11: Relationship between cost of production and profit

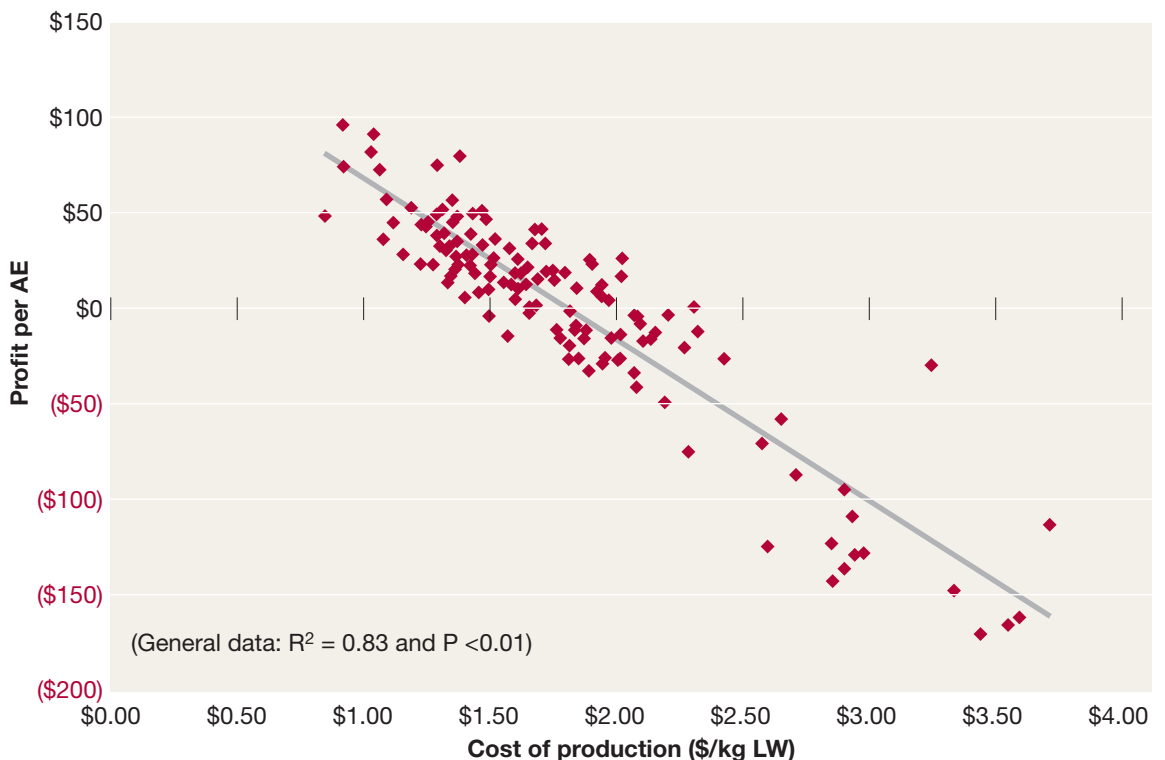
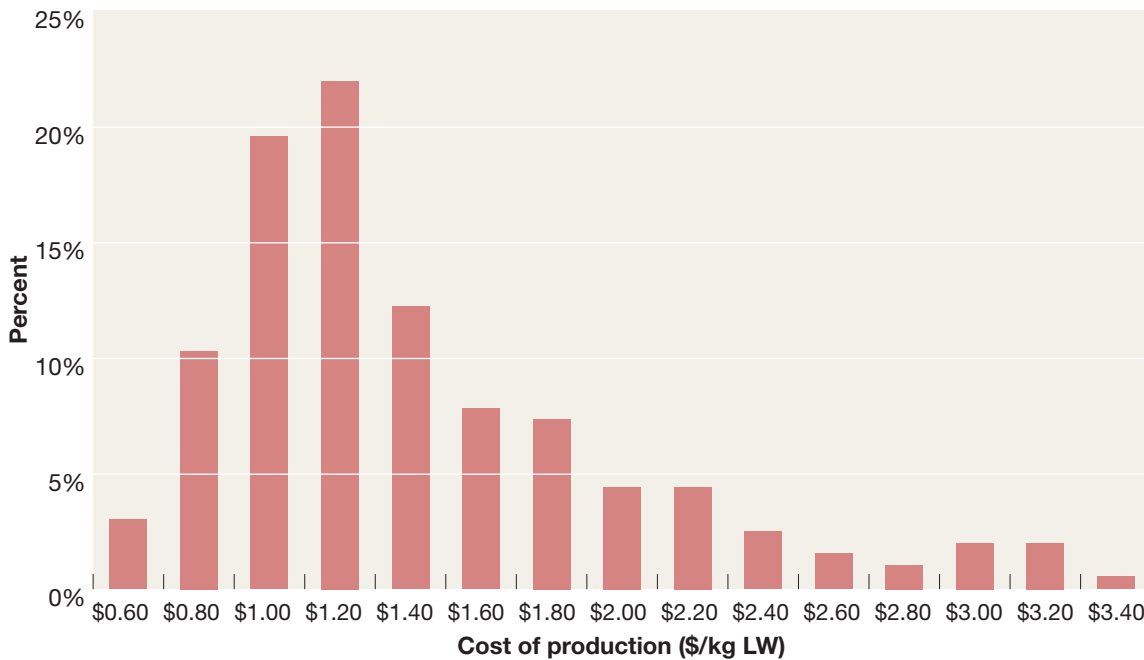


Figure 12: Cost of production distribution



If cost of production is the primary KPI at herd level and the key to increasing herd profits is lowering it, then a good understanding of it is essential.

Cost of production is largely a self-explanatory term – the cost per kilogram of beef produced. However, it is a misleading term, due to the word ‘cost’ being upfront, and usually elicits a response along the lines of: “I’ve already cut my costs as far as I can. What more can I do to lower my cost of production?” This is a valid point as cost of production is more effectively lowered through increasing production than it is through cutting costs.

The reasons why cost of production is a critical KPI are straightforward. Firstly, it incorporates the kilograms produced and sold that year. Essentially this is just herd productivity, which has been shown to be the major driver of herd income. Secondly, it incorporates total operating costs, which are also important. So, when you divide the total kilograms produced and sold by the total cost of doing so, you end up with cost of production. All the components of cost of production are under your direct control. The only thing missing now is the price received, which is largely out of your control and is the ‘junior partner’ in herd income determination.

So a decrease in cost of production can be achieved by lowering costs and/or increasing kilograms. As detailed above, it is important to know the cost structure of your business and where improvements can be made, however beyond scale and labour efficiency there is limited room to move. There is usually more that can be done to lift productivity than to reduce costs. A lower cost of production may even be achieved by increasing costs. If the money is spent well and cost effectively increases the number of kilograms produced, it will lower your cost of production.

A ‘good business’ requires significant after-tax profits over time.

Decisions made on the basis of reducing tax in the short term can come at the expense of maximising after-tax profits in the long term.

4.5. How much profit do you need to make?

To determine how much profit you need to make, you should refer back to section 2: What is a ‘good’ beef business? Have a look at the eight attributes listed in that section and then look at what they will cost to achieve; this will help you work out what profits you need to achieve. Most of the things a good business needs to achieve have to be funded out of after-tax profits. Therefore a long-term focus on maximising after-tax profits is a much better strategy than a short-sighted focus on minimising the amount of tax paid.

If you need to increase profits, then a good place to start is to identify what are the weakness(s) of your business from among the following:

- lack of operating scale
- poor herd productivity
- sub-optimal enterprise expenditure
- poor labour efficiency.

Identifying which of the above are issues for your business, prioritising them and developing a plan to address them, will give you a road map to improve the profits of your business.

Producers should refer to the top 25% performance figure for their region detailed in Appendix 8.2 for an indication of what profits are achievable. This will assist in determining if the profits required can be generated. Keep in mind the top 10% performance will be considerably higher than the top 25%, if you believe your business management skills are capable of achieving that level of performance.



5. A story of two herds

The objective of this section is to tie together all the preceding detail into a real-life scenario to give it meaning and context. The data used in this section has been drawn from the NBR where the average and top 25% herds were compared in the 1,600-5,400 herd size cohort. The story is an accurate and typical description of what happens in any district when like-minded producers get together in an attempt to improve business performance. The story (albeit related a little less formally) begins...

It's hard, isn't it? Mum and Dad left you the place and you are on your own now. You have a couple of kids and their future education is forever on the minds of you and your wife. You are doing your best with what Mum and Dad have instilled in you, but you are not sure if it is still the right path going forward. Things change, don't they? You run into your neighbour occasionally, either on the boundary fence or at a meeting. He talks about rainfall and the beef price, as do most of the others in your district, but it does not help you much. He drives an expensive car and always seems to do well selling his feeder steers. Dad told you that light bullocks were the best way to go in your district and that is what you have done, but your car isn't that great.

One day, a consultant arrives in town and says he wants to set up a beef production group in the district. He lays out the plan and it involves you giving him some data from your business. He will go away, process the data and report back to everyone, provided it is open book and everyone is trustworthy enough to accept the confidentiality of that. You are keen, but an even bigger surprise is that your neighbour is keen too.

You get to the first meeting and, initially, all you are interested in is how you are going relative to your neighbour. After all, he has much the same land systems and rainfall as you. Unbeknown to you at this stage, you have to think beyond that. Anyway, up go the figures. The consultant first puts up the physical data and you hone in on you and the neighbour to see:

	Neighbour	You
Area (ha)	36,322	37,705
Total cattle	2,734	2,955
Total AE	3,196	3,478
Total assets under management (\$M)	10.24	9.29

Not much difference there, but you knew that, even that his place may fetch a higher price if sold because the entrance is closer to town. So, you are pretty comparable at this stage. Then the figures for the business go up:

	Neighbour	You
Gross profit	686,315	871,943
Enterprise expenses	132,879	128,306
Gross margin	553,436	743,647
Overhead expenses	416,806	394,770
Total operating expenses	549,685	523,076
Profit (EBIT)	136,630	348,867

Some significant differences are becoming apparent. You look at the figures and conclude that most of the difference is coming from better sales and gross profit, and you also seem to be able to run everything at lower cost. Your neighbour is looking puzzled.

The consultant explains that all business analysis stops at earnings before interest and tax (EBIT), but it is important to consider what happens after that to determine if there is sufficient accumulated cash available to fund family needs and aspirations. A lot more cash has to leave the business beyond EBIT to get to the net proceeds to the owner. The consultant illustrates this with more figures:

	Neighbour	You
EBIT	136,630	348,867
Interest	(85,080)	(84,140)
Notional tax @ 30%	(15,465)	(79,418)
Net profit after tax	36,085	185,309
Depreciation	59,413	51,745
Funds available before capital expenditure (capex)	95,498	237,054
Less depreciation adjustment	(71,296)	(62,094)
Net proceeds to owner	24,202	174,960

First up you realise it is probably only a minor matter, but your Dad always told you not to worry about tax. “The more you pay, the more you will have in the bank,” he said. “After all, they only take \$0.30 in every \$1.00, leaving you with \$0.70.” Your neighbour has always been a bit averse to paying tax, so he should be happy with the result. However, the fact remains that, even though you are paying about \$64K more than he is, your end-of-year result is much healthier.

The consultant says not to worry too much about the depreciation and its adjustment; it’s an accounting technicality. He said to just concentrate on the ‘Net proceeds to owner’ line and then work through the checklist for economic sustainability to see if your business is sustainable or not. You conclude that you are in reasonable shape, but you still have no idea about how you did it. You also ponder the fact there is no way you could achieve your family’s needs and aspirations if your net proceeds were \$24K, like your neighbour.

You don’t have long to wait to find out, because the herd performance figures go up next, starting with the financial performance per Adult Equivalent (AE)⁶.

	Neighbour	You
Gross profit	194.27	226.30
Enterprise expenses	37.03	32.30
Gross margin	157.24	194.00
Overhead expenses	117.95	102.54
Total Operating expenses	154.99	134.84
EBIT	39.28	91.46

There it is again. The herd, just like the business, seems to be producing more income from a lower cost base, but you are still scratching your head trying to work out how. All you know is that every AE on your place is delivering about \$52 of EBIT more than your neighbour.

⁶ Whole business figures include small amounts of non-beef income and expenditure which herd income statements do not.

Finally, the consultant puts up the explanation, the herd key performance indicators (KPIs) and they really set you back on your heels.

	Neighbour	You
Price received (\$/kg LW)	\$1.77	\$1.78
Cost of production (\$/kg LW)	\$1.41	\$1.06
Operating margin (\$/kg LW)	\$0.36	\$0.72
kg beef/AE	110.0	127.1
Labour efficiency (AE/FTE)	1,025	1,237
Labour costs (\$/AE)	\$44.46	\$37.91
Gross value/head sold (all sales)	\$849	\$897
Sale weight/head sold (all sales)	472	493
Reproductive rate %	65.2%	70.4%
Mortality rate %	2.0%	1.3%

The KPI differences between your herd and your neighbour's herd are so small it is almost impossible to believe they can create the huge difference in the EBIT and net proceeds to the owners. Your price received is the same and your cost of production is only \$0.35/kg less. That is being driven by only 17kg more beef being produced per AE, and that, in turn, is a function of the cattle being sold, on average 20kg heavier. Also, you are weaning 5% more calves and your overall herd mortality rate is a smidgeon lower. What you fail to realise at this stage, is that all these small differences are additive and also get leveraged up with operating scale. Tiny differences in the key productivity areas can therefore combine to produce huge differences to herd performance and the business result.

On the expense side, your herd enterprise expenses are lower and you seem to have a better grip on your overheads, or so-called 'fixed' expenses. It's a little too difficult to work out at this stage why your enterprise expenses are lower, without more information. You think it may have something to do with selling costs and/or supplementary feeding. Perhaps it will become evident later. However the overhead expenses are a little easier. It seems your labour efficiency is close to 20% better than your neighbour. For whatever reason(s), you seem to be able to manage roughly the same size herd as the neighbour, but with fewer man-hours and 14% lower direct wage costs. You seem to recall this is important, having heard a speaker at an MLA Beef Up Forum once state that labour and labour-related expenses constitute about 50% of the total operating expenses of a northern beef business.

The consultant explains that all these questions and a whole lot more will be answered in what is to follow when he provides the additional data and some interpretation. He summed up what the figures had meant at this stage by saying:

1. Don't exceed your safe long-term carrying capacity. Although this conclusion is not evident in the figures, he said that if you start using up environmental capital to prop up the business, it will ultimately send you broke, just as financial mismanagement will.

- 2. Concentrate on your cost of production.** *It is completely under your control, whereas the beef price is not. Stop thinking and talking about the beef price and it will stop seducing you to journey down 'Distraction Lane'. Set a competitive cost of production target, say \$1, and work out how to get there. The key is improving herd productivity and controlling the costs that really matter. The specific areas to work on are:*
- a. The herd reproductive rate. Improve it cost-effectively to the limit imposed by your environment.*
 - b. The herd mortality rate. Work on reducing it to the lowest possible level. A good target range would be 3-6%, depending on your location.*
 - c. Sell cattle as heavy as your environment and available markets will allow. If you have a choice, avoid selling young and/or light cattle. It is almost impossible to be highly profitable if you do this.*
 - d. Concentrate significantly on your direct herd expenses and do not spend one dollar unless it is unavoidable, or it will return more than one dollar.*
 - e. Invest capital, both intellectual and financial, to work out how to keep your labour efficiency highly competitive. Set a minimum target of 1,500AE/FTE to start with and work out how to get there.*

Fact or fiction?

Of course, this story is fictitious; it has been used to add context and describe some of the real-life attitudes and reactions to business and herd performance analysis, when seen for the first time by owners and/or managers.

It also shows that attempting to do any sort of over-the-fence comparisons without some form of serious business and herd performance benchmarking usually results in a time-wasting talkfest, simply because you cannot improve what you do not measure.



6. Improved business performance requires improved business skills

For most beef producers, it may not be apparent that the key to success is knowledge and skills. In the past, it was all about stockmanship and practical ability including horses, camp-drafting prowess and wire-straining technique. This is no longer the case. Not only do you need those practical skills, but you must also possess the knowledge and skills to run the business.

For many beef producers this may represent a threat; lifestyle has to change. For some, it is a new challenge they must embrace for their businesses to continue in an economically sustainable manner. The concept of business management is not unique to agriculture and is one that must be embraced.

The key, as stated earlier, is knowledge and skills. With that in mind, the following courses are a good starting point.

MLA EDGENetwork® courses:

- Business EDGE
- Breeding EDGE
- Nutrition EDGE
- Grazing Land Management.

www.mla.com.au/edgenetwork



6.1. Where should you focus, and not focus, your attention?

There are a number of common misconceptions in the beef industry that can be dangerous and can prevent good business performance. To follow is a small sample of common statements and an explanation as to why they are misconceptions.

“The accountant keeps all the records I need. My job is to manage the herd.”

As a manager, your task is to manage the business first and foremost, as the herd is only part of the business, not the whole business. The role of an accountant is to prepare an annual tax return and offer advice on business structures and other specialist matters. As the manager of a multi-million dollar business, it is imperative you acquire sufficient financial literacy to manage the whole business. This will include BAS compliance, but should also include the setting up of management accounts to be able to monitor cashflow and business performance. All business managers should be able to produce an annual budget and be able to report budget to actual performance by month. All business managers should be able to speak to their accountant as needed and on equal terms regarding most financial matters.

“I have to keep my costs under control; that is my only option for the future.”

Yes, certainly keep an eye on costs, but that strategy alone will not transform your business. You have to make sure every dollar you spend in direct herd costs returns more than a dollar in productivity. You need to focus on labour efficiency to reduce all labour-related expenses. More importantly, focus on the income side and lift the productivity of the herd because input here will really transform a business.

“It’s better to pay interest than tax.”

Sometimes this is true, but most of the time it’s not. It’s true only if the return from what you have used the debt for, exceeds the cost of that debt. Often this isn’t the case in beef businesses, so it’s critical to do the sums carefully. Debt can be very seductive but it can also easily lead you to bankruptcy.

“A few good seasons and a lift in prices are all I need to improve performance.”

This is incorrect and a poor strategy. Price and climate risk are just two of a range of business risks that need to be managed. Relying on factors that are out of your control to improve your situation is not a rational approach. Good business managers always assess the business risks and put strategies in place to deal with them.

7. Conclusion

- A 'good business' needs to generate significant after-tax profits to fund the needs of the family and to be considered economically sustainable in the long term.
- What it costs a business to produce a kilogram of beef (cost of production \$/kg LW) determines its profit, through all market levels. Cost of production is a function of both productivity and costs, usually in that order of importance.
- Differences in income usually explain more of the difference in profits between businesses than differences in costs.
- The income of a business is determined primarily by its productivity, with price received being a secondary issue. Small productivity changes in the herd can transform the whole business performance.
- It is critical to spend the right amount of money on the herd in the right places. Spending too much for no return erodes profit.
- Scale has a very big influence on overhead costs per AE for businesses less than 3,000 AE. Herds below this can still make reasonable profits, however there is a point where the scale constraint is insurmountable.
- How efficiently a business uses labour has a big influence on its overhead costs, regardless of scale.
- Addressing the key areas that can be improved independent of scale (kg beef/AE, enterprise expenses and labour efficiency) will benefit most businesses more, at least initially, than an increase in scale will.
- The reasons top performers are doing better is they think independently, have a business focus, stick to their plan and get the simple things right.
- As a result the top producers achieve:
 - ✓ higher income through better productivity
 - ✓ lower and better targeted enterprise expenditure
 - ✓ better labour efficiency contributing to lower overhead expenses
 - ✓ a more effective cost base (more income for every dollar spent).

The key to increased profit is not complex; identifying the important components of your business and addressing them will provide results. The good news is this provides you with control, however the bad news is there is no silver bullet, quick fix or magic system that will achieve results. Business success will require focus, discipline and attention on the areas that matter.

8. Appendices

8.1. Adult Equivalent tables

Adult Equivalent (AE) ratings represent energy requirements relative to the AE standard, which is a 450kg *Bos taurus* steer at maintenance.

Growing steers									Annualised breeders								
		Liveweight gain (kg/hd/day)									Mob weaning rate						
		0.0	0.2	0.4	0.6	0.8	1.0	1.2			60%	65%	70%	75%	80%	85%	
BOS TAURUS	Liveweight (kg)	150	0.43	0.53	0.64	0.75	0.87	0.99	1.11	Liveweight (kg)	350	1.18	1.21	1.24	1.27	1.31	1.34
		200	0.52	0.64	0.77	0.90	1.03	1.17	1.31		375	1.22	1.26	1.29	1.32	1.36	1.39
		250	0.62	0.77	0.91	1.06	1.21	1.37	1.53		400	1.27	1.30	1.34	1.37	1.40	1.44
		300	0.72	0.89	1.05	1.22	1.39	1.56	1.74		425	1.32	1.35	1.38	1.42	1.45	1.48
		350	0.82	1.00	1.18	1.37	1.55	1.74	1.93		450	1.37	1.40	1.43	1.47	1.50	1.53
		400	0.91	1.11	1.30	1.50	1.70	1.90	2.10		475	1.41	1.45	1.48	1.51	1.55	1.58
		450	1.00	1.21	1.41	1.62	1.83	2.04	2.25		500	1.46	1.49	1.53	1.56	1.59	1.63
		500	1.09	1.30	1.52	1.73	1.95	2.16	2.38		525	1.51	1.54	1.58	1.61	1.64	1.68
		550	1.18	1.40	1.62	1.84	2.05	2.27	2.49		550	1.56	1.59	1.62	1.66	1.69	1.72
		600	1.27	1.49	1.71	1.93	2.15	2.38	2.60		575	1.60	1.64	1.67	1.70	1.74	1.77
650	1.36	1.58	1.80	2.02	2.24	2.46	2.69	600	1.65	1.69	1.72	1.75	1.79	1.82			
BOS INDICUS	Liveweight (kg)	150	0.38	0.48	0.58	0.68	0.79	0.91	1.03	Liveweight (kg)	350	1.06	1.09	1.12	1.15	1.18	1.22
		200	0.46	0.58	0.69	0.81	0.94	1.07	1.20		375	1.10	1.14	1.17	1.20	1.23	1.26
		250	0.55	0.68	0.82	0.96	1.10	1.25	1.40		400	1.15	1.18	1.21	1.24	1.27	1.30
		300	0.64	0.79	0.95	1.10	1.26	1.43	1.59		425	1.19	1.22	1.25	1.28	1.31	1.34
		350	0.73	0.90	1.07	1.24	1.42	1.60	1.78		450	1.23	1.26	1.30	1.33	1.36	1.39
		400	0.81	1.00	1.18	1.37	1.56	1.76	1.95		475	1.28	1.31	1.34	1.37	1.40	1.43
		450	0.89	1.09	1.29	1.49	1.69	1.89	2.10		500	1.32	1.35	1.38	1.41	1.44	1.48
		500	0.97	1.18	1.39	1.60	1.81	2.02	2.23		525	1.36	1.40	1.43	1.46	1.49	1.52
		550	1.06	1.27	1.48	1.70	1.91	2.13	2.35		550	1.41	1.44	1.47	1.50	1.53	1.56
		600	1.14	1.36	1.57	1.79	2.01	2.23	2.45		575	1.45	1.48	1.51	1.55	1.58	1.61
650	1.22	1.44	1.66	1.88	2.10	2.33	2.55	600	1.50	1.53	1.56	1.59	1.62	1.65			
CROSSBREED	Liveweight (kg)	150	0.41	0.50	0.60	0.71	0.82	0.93	1.05	Liveweight (kg)	350	1.11	1.15	1.18	1.21	1.24	1.27
		200	0.49	0.61	0.72	0.84	0.97	1.10	1.23		375	1.16	1.19	1.22	1.25	1.29	1.32
		250	0.59	0.72	0.86	1.00	1.14	1.28	1.43		400	1.21	1.24	1.27	1.30	1.33	1.36
		300	0.68	0.83	0.99	1.15	1.31	1.47	1.63		425	1.25	1.28	1.31	1.35	1.38	1.41
		350	0.77	0.94	1.11	1.29	1.47	1.64	1.82		450	1.30	1.33	1.36	1.39	1.42	1.45
		400	0.86	1.05	1.23	1.42	1.61	1.80	2.00		475	1.34	1.37	1.41	1.44	1.47	1.50
		450	0.95	1.14	1.34	1.54	1.75	1.95	2.15		500	1.39	1.42	1.45	1.48	1.51	1.55
		500	1.03	1.24	1.45	1.66	1.87	2.08	2.29		525	1.43	1.46	1.50	1.53	1.56	1.59
		550	1.12	1.33	1.55	1.76	1.98	2.19	2.41		550	1.48	1.51	1.54	1.57	1.61	1.64
		600	1.20	1.42	1.64	1.86	2.08	2.30	2.52		575	1.53	1.56	1.59	1.62	1.65	1.68
650	1.29	1.51	1.73	1.95	2.17	2.39	2.62	600	1.57	1.60	1.63	1.67	1.70	1.73			
EUROPEAN	Liveweight (kg)	150	0.43	0.52	0.60	0.69	0.79	0.89	0.99	Liveweight (kg)	350	1.14	1.18	1.21	1.24	1.27	1.30
		200	0.52	0.62	0.71	0.81	0.92	1.03	1.14		375	1.19	1.22	1.25	1.28	1.32	1.35
		250	0.62	0.73	0.84	0.95	1.07	1.18	1.30		400	1.24	1.27	1.30	1.33	1.36	1.39
		300	0.72	0.84	0.96	1.09	1.21	1.34	1.48		425	1.29	1.32	1.35	1.38	1.41	1.44
		350	0.82	0.95	1.08	1.22	1.36	1.50	1.65		450	1.34	1.37	1.40	1.43	1.46	1.49
		400	0.91	1.05	1.20	1.35	1.50	1.65	1.81		475	1.38	1.41	1.44	1.48	1.51	1.54
		450	1.00	1.16	1.32	1.48	1.64	1.80	1.96		500	1.43	1.46	1.49	1.52	1.55	1.58
		500	1.09	1.26	1.42	1.59	1.76	1.93	2.11		525	1.48	1.51	1.54	1.57	1.60	1.63
		550	1.18	1.35	1.53	1.70	1.88	2.06	2.24		550	1.53	1.56	1.59	1.62	1.65	1.68
		600	1.27	1.45	1.63	1.81	1.99	2.17	2.36		575	1.57	1.61	1.64	1.67	1.70	1.73
650	1.36	1.54	1.72	1.91	2.09	2.28	2.47	600	1.62	1.65	1.68	1.72	1.75	1.78			

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8.2. Summary financial information

8.2.1. Long-term average performance (regions)

LEGEND

Q:SC	QLD Southern Coastal	Q:SI	QLD Southern Inland and Central	Q:CN	QLD Central North
Q:NC	QLD Northern Coastal	Q:Ca	QLD Cape & Carpentaria	Q:CW	QLD Central West
Q:ED	QLD Eastern Downs	Q:WSW	QLD West & South-West	Continued on page 38	

	Q High Rainfall			Q Wheat-Sheep			QLD Pastoral			NT Pastoral			WA Pastoral			Average
	Q:SC	Q:NC	Q:ED	Q:Ca	Q:SI	Q:ED	Q:WSW	Q:CN	Q:CW	N:AS	N:Ba	N:VK	N:DTE	W:KI	W:PI	
Operating return	(0.6%)	(0.5%)	(1.0%)	1.5%	0.4%	1.0%	1.1%	1.3%	1.2%	1.3%	1.8%	2.1%	(0.6%)	3.2%	2.8%	0.2%
Capital return	4.8%	4.2%	5.0%	5.7%	5.2%	5.0%	3.5%	5.7%	4.4%	2.1%	2.8%	3.4%	5.4%	2.0%	2.3%	4.8%
Total business return	4.2%	3.7%	4.0%	7.2%	5.6%	4.0%	4.5%	7.1%	5.6%	3.3%	4.6%	5.5%	4.9%	5.1%	5.1%	5.0%

BEEF ENTERPRISE INCOME STATEMENT

	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE
GROSS PROFIT	195.90	153.13	286.54	102.50	224.54	286.54	142.86	141.43	202.01	142.87	112.87	118.78	107.22	117.19	117.75	171.04
ENTERPRISE EXPENSES																
Animal health	1.31	0.92	4.63	0.49	1.65	4.63	0.31	0.53	0.50	0.09	0.01	0.31	0.14	0.18	0.28	0.98
Insurance and materials	5.85	5.37	9.05	3.07	6.12	9.05	3.88	3.14	5.52	3.66	3.28	4.20	6.97	4.42	3.04	4.97
Mustering and contracting	2.79	3.68	2.53	4.59	3.83	2.53	5.41	3.82	4.13	2.69	4.51	4.82	5.49	6.13	4.59	3.95
Selling costs	4.34	2.94	10.18	1.64	5.84	10.18	6.02	4.25	6.00	6.89	3.11	4.11	3.65	3.81	5.36	5.04
Fodder	29.59	31.48	54.97	8.08	24.83	54.97	12.55	18.34	19.35	5.38	3.98	9.12	13.26	6.98	3.44	21.14
	43.88	44.39	81.34	17.87	42.26	81.34	28.16	30.09	35.50	18.71	14.89	22.56	29.50	21.52	16.71	36.08
GROSS MARGIN	152.02	108.73	205.19	84.63	182.28	205.19	114.69	111.34	166.52	124.16	97.98	96.22	77.72	95.67	101.04	134.96

OVERHEAD EXPENSES

Administration	10.03	6.04	15.29	2.59	9.68	15.29	6.70	5.63	10.24	6.53	4.86	3.43	4.92	3.90	3.84	7.73
Depreciation	24.17	19.15	28.51	9.20	23.94	28.51	12.66	10.14	16.34	18.52	10.30	8.01	11.54	8.14	10.53	17.72
Electricity and gas	1.40	1.37	2.56	0.40	1.90	2.56	1.29	1.13	1.74	0.17	0.15	0.09	0.11	0.11	0.45	1.34
Freight	6.48	5.78	6.57	7.34	8.54	6.57	11.47	6.04	7.84	10.91	6.18	5.00	4.87	4.84	6.70	7.45
Fuel and lubricants	11.39	8.14	17.98	6.35	13.95	17.98	9.18	6.87	11.50	11.55	13.94	9.07	10.12	8.86	8.76	10.74
Insurance	3.84	2.25	6.11	3.53	3.53	6.11	2.49	1.98	3.17	4.22	2.47	1.95	2.38	1.76	2.36	2.91
Materials	1.17	0.62	1.67	0.43	1.38	1.67	0.91	1.07	1.75	1.15	1.48	0.86	0.98	0.56	0.60	1.16
Motor vehicle expenses	4.58	2.32	5.44	3.56	3.56	5.44	2.31	1.51	3.32	3.01	1.10	1.42	1.57	2.02	1.76	2.85
Rates and rents	9.32	7.29	14.97	7.76	7.76	14.97	5.32	4.03	5.13	2.68	1.74	2.50	3.32	3.52	2.63	6.20
R and M general	17.51	16.53	23.85	21.06	7.38	23.85	12.51	11.51	18.78	15.05	9.99	9.58	11.28	10.94	10.04	15.95
Wages	8.92	11.97	17.49	10.80	9.05	17.49	12.74	9.38	10.91	16.66	14.27	14.41	16.02	11.93	12.44	10.94
Wages (owner)	77.30	42.32	108.70	57.66	14.89	108.70	19.19	26.82	43.27	17.88	9.20	9.51	19.51	8.91	12.75	43.81
	176.12	123.78	249.16	62.67	163.75	249.16	96.76	86.10	133.97	108.33	75.68	65.81	86.61	65.49	72.86	128.80
TOTAL OPERATING EXPENSES	220.00	168.17	330.51	80.54	206.01	330.51	124.92	116.19	169.47	127.04	90.57	88.37	116.11	87.01	89.57	164.88

EARNINGS BEFORE INTEREST & TAX	(24.10)	(15.04)	(43.97)	18.53	21.96	(43.97)	17.93	25.24	32.54	15.83	22.31	30.40	(8.90)	30.18	28.18	6.16
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BEEF PRIMARY PERFORMANCE INDICATORS

Price received (\$/kg LW)	\$1.88	\$1.89	\$1.89	\$1.76	\$1.91	\$1.89	\$1.81	\$1.68	\$1.75	\$1.64	\$1.81	\$1.87	\$1.92	\$1.75	\$1.62	\$1.76
Cost of production (\$/kg LW)	\$2.11	\$2.08	\$2.18	\$1.39	\$1.75	\$2.18	\$1.58	\$1.38	\$1.47	\$1.46	\$1.46	\$1.39	\$2.07	\$1.30	\$1.23	\$1.69
Operating margin (\$/kg LW)	(\$0.23)	(\$0.19)	(\$0.29)	\$0.38	\$0.16	(\$0.29)	\$0.23	\$0.30	\$0.28	\$0.18	\$0.36	\$0.48	(\$0.16)	\$0.45	\$0.39	\$0.06
Kg beef/AE	104.4	81.0	151.8	58.1	117.7	151.8	79.0	84.0	115.1	87.3	62.2	63.5	56.0	66.9	72.8	97.4
Labour efficiency (AE/FTE)	550	875	391	696	1,877	391	1,445	1,252	871	1,318	1,926	1,888	1,390	2,332	1,996	863
Labour costs (\$/AE)	86.22	54.29	126.19	68.46	23.94	126.19	31.93	36.20	54.18	34.53	23.47	23.91	35.53	20.83	25.19	\$54.75

BEEF SECONDARY PERFORMANCE INDICATORS

Gross value/head sold (all sales)	\$862	\$784	\$1,013	\$906	\$475	\$1,013	\$664	\$741	\$806	\$649	\$547	\$575	\$566	\$550	\$492	\$792
Sale weight/head sold (all sales)	463	434	536	477	266	536	384	433	446	382	323	323	305	325	298	443
Reproductive rate %	67.4%	55.8%	70.1%	71.4%	58.5%	70.1%	61.6%	55.6%	67.8%	65.5%	59.2%	55.4%	53.0%	55.7%	56.6%	64.5%
Mortality rate %	1.5%	1.9%	2.0%	1.7%	4.7%	2.0%	2.8%	2.2%	1.7%	4.7%	4.2%	4.7%	5.4%	3.5%	1.9%	2.3%
Enterprise size (annual avg AE)	1,132	1,741	716	1,535	6,183	716	4,460	3,863	2,188	6,062	12,682	10,331	4,482	9,108	8,214	2,031
Stocking rate (AE/ha)	0.26	0.20	0.20	0.18	0.05	0.20	0.04	0.10	0.10	0.02	0.03	0.06	0.07	0.04	0.03	0.09

8.2.2. Long-term top 25% performance (regions)

LEGEND Continued from page 37

N:AS	NT Alice Springs	N:VK	NT VRD & Katherine	W:Ki	WA Kimberley
N:Ba	NT Barkly Tablelands	N:DTE	NT Darwin & Top-End	W:Pi	WA Pilbara

	Q High Rainfall		Q Wheat-Sheep		QLD Pastoral			NT Pastoral			WA Pastoral		Average		
	Q:SC	Q:NC	Q:ED	Q:SI	Q:Ca	Q:WSW	Q:CN	Q:CW	N:AS	N:Ba	N:VK	N:DTE	W:Ki	W:Pi	
	1.2%	2.1%	1.2%	2.2%	3.9%	3.9%	3.7%	2.8%	5.6%	4.0%	3.5%	1.6%	4.4%	4.4%	2.7%
	5.3%	2.5%	5.8%	6.4%	6.1%	5.1%	7.6%	5.0%	2.5%	3.4%	5.4%	8.2%	2.8%	2.8%	5.5%
Total business return	6.6%	4.6%	7.0%	8.6%	10.1%	9.0%	11.3%	7.8%	8.2%	7.4%	9.0%	9.9%	7.1%	7.1%	8.1%
BEEF ENTERPRISE INCOME STATEMENT															
	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE
GROSS PROFIT	208.81	198.56	379.19	243.25	111.49	168.39	162.76	211.97	179.30	145.50	124.57	141.67	123.17	123.17	186.47
ENTERPRISE EXPENSES															
Animal health	0.97	1.02	6.98	1.46	0.66	0.27	0.56	0.49	0.03	0.02	0.30	0.13	0.17	0.17	0.89
Insurance and materials	5.17	5.51	12.51	4.93	2.80	3.17	2.92	5.06	2.74	3.60	3.98	4.05	5.56	5.56	4.16
Mustering and contracting	2.64	5.39	4.13	3.56	4.09	4.04	3.76	3.99	3.62	2.59	4.72	6.02	4.18	4.18	3.92
Selling costs	3.90	2.31	12.12	5.53	1.46	5.24	4.68	4.73	6.90	3.93	3.24	3.86	3.39	3.39	4.83
Fodder	23.44	31.16	63.90	17.71	6.12	8.29	15.44	19.06	3.99	3.51	6.79	13.73	7.07	7.07	15.95
	36.12	45.40	99.64	33.19	15.11	21.01	27.36	33.32	17.28	13.65	19.03	27.78	20.37	20.37	29.75
GROSS MARGIN	172.69	153.16	279.55	210.06	96.37	147.38	135.40	178.65	162.02	131.84	105.55	113.90	102.80	102.80	156.71
OVERHEAD EXPENSES															
Administration	7.96	5.46	17.33	8.41	1.36	7.59	4.98	8.01	6.74	4.09	2.43	5.50	3.47	3.47	6.13
Depreciation	18.39	16.65	21.78	18.78	6.37	11.64	8.55	13.82	14.21	14.11	6.75	11.97	7.31	7.31	13.01
Electricity and gas	1.24	1.59	2.18	1.53	0.38	1.07	1.10	1.36	0.13	0.25	0.09	0.10	0.12	0.12	1.07
Freight	6.09	6.96	7.51	8.54	7.23	9.20	6.05	6.24	10.26	5.78	5.81	5.51	3.91	3.91	7.17
Fuel and lubricants	9.24	7.13	13.53	10.79	5.95	7.74	5.75	11.05	11.36	16.15	7.90	9.93	9.38	9.38	8.66
Insurance	2.91	1.80	5.47	2.80	0.58	2.14	1.80	2.76	3.88	3.40	1.68	2.44	1.76	1.76	2.35
Materials	1.23	0.70	1.64	1.28	0.35	0.61	0.98	1.56	0.61	0.72	0.86	1.31	0.56	0.56	1.10
Motor vehicle expenses	3.09	1.51	3.80	2.61	0.84	2.03	1.12	2.89	1.56	1.12	1.18	2.20	2.37	2.37	1.10
Rates and rents	8.24	7.44	20.19	6.96	2.85	4.67	3.69	4.05	2.64	1.30	2.61	1.62	3.89	3.89	5.08
R and M general	14.71	14.20	21.18	16.75	6.89	9.29	8.99	14.33	14.37	12.97	7.85	11.22	10.53	10.53	12.73
Wages	8.14	14.43	20.72	8.83	10.49	12.39	9.69	9.46	12.55	12.63	14.93	20.46	14.03	14.03	10.45
Wages (owner)	44.50	25.62	76.57	38.03	7.87	14.64	17.38	32.24	15.12	12.71	6.25	16.65	5.98	5.98	24.87
	125.75	103.48	211.89	125.31	51.16	83.03	70.07	107.78	93.44	85.22	58.35	88.91	63.31	63.31	94.75
TOTAL OPERATING EXPENSES	161.87	148.88	311.53	158.50	66.27	104.04	97.42	141.11	110.72	98.88	77.37	116.69	83.68	83.68	124.51
EARNINGS BEFORE INTEREST & TAX															
	46.94	49.68	67.65	84.75	45.22	64.35	65.34	70.87	68.58	46.62	47.20	24.98	39.49	39.49	61.96
BEEF PRIMARY PERFORMANCE INDICATORS															
Price received (\$/kg LW)	\$1.87	\$1.85	\$1.82	\$1.89	\$1.76	\$1.74	\$1.69	\$1.75	\$1.66	\$2.09	\$1.96	\$2.00	\$1.69	\$1.69	\$1.76
Cost of production (\$/kg LW)	\$1.45	\$1.39	\$1.50	\$1.23	\$1.05	\$1.07	\$1.01	\$1.16	\$1.03	\$1.42	\$1.22	\$1.65	\$1.15	\$1.15	\$1.18
Operating margin (\$/kg LW)	\$0.42	\$0.46	\$0.33	\$0.66	\$0.71	\$0.66	\$0.68	\$0.58	\$0.64	\$0.67	\$0.74	\$0.35	\$0.54	\$0.54	\$0.59
Kg beef/AE	111.9	107.4	207.9	128.4	63.4	96.9	96.2	121.2	107.8	69.7	63.5	70.7	72.8	72.8	105.9
Labour efficiency (AE/FTE)	872	1,185	502	991	2,393	1,659	1,590	1,042	1,569	1,988	2,076	1,342	2,414	2,414	1,306
Labour costs (\$/AE)	52.64	40.04	97.30	46.87	18.36	27.03	27.07	41.70	27.68	25.34	21.17	37.11	20.01	20.01	\$35.32
BEEF SECONDARY PERFORMANCE INDICATORS															
Gross value/head sold (all sales)	\$925	\$877	\$1,242	\$983	\$450	\$700	\$783	\$856	\$720	\$572	\$573	\$587	\$580	\$580	\$828
Sale weight/head sold (all sales)	500	496	647	523	255	409	460	479	420	335	322	312	349	349	464
Reproductive rate %	69.4%	63.5%	71.5%	75.3%	62.6%	68.7%	58.6%	70.0%	72.1%	69.0%	58.5%	55.7%	55.2%	55.2%	67.4%
Mortality rate %	1.0%	1.4%	1.6%	1.1%	3.8%	1.9%	2.1%	1.6%	3.6%	4.2%	4.3%	4.3%	3.0%	3.0%	1.9%
Enterprise size (annual avg AE)	2,258	2,544	1,141	2,600	11,294	5,907	6,306	3,217	7,010	9,835	16,604	5,062	13,338	13,338	3,931
Stocking rate (AE/ha)	0.26	0.18	0.23	0.21	0.08	0.04	0.12	0.12	0.02	0.03	0.08	0.06	0.04	0.04	0.09

8.2.3. Long-term average performance (herd size, markets and corporate)

	200-800 (2.5%) 5.1%		800-1,600 (0.1%) 4.7%		1,600-5,400 1.3% 4.7%		5,400+ 1.9% 4.4%		MARKET		CORP	
Average									Slaughter	Store	Export	Corp.
Operating return	0.2%								0.3%	(0.2%)	1.6%	3.9%
Capital return	4.8%								4.8%	5.1%	2.5%	5.0%
Total business return	5.0%	2.6%	4.6%	6.0%	6.3%				5.2%	4.9%	4.1%	8.9%
BEEF ENTERPRISE INCOME STATEMENT												
GROSS PROFIT	\$/AE	190.74	196.79	194.27	139.14				\$/AE	183.94	\$/AE	135.92
ENTERPRISE EXPENSES												
Animal health	0.98	2.08	1.08	1.13	0.38				1.07	0.95	0.27	0.13
Insurance and materials	4.97	7.16	6.00	5.08	3.58				5.02	4.98	4.18	4.26
Mustering and contracting	3.95	2.21	3.58	3.88	4.76				4.02	3.61	4.99	4.92
Selling costs	5.04	6.83	5.41	5.17	3.87				4.49	6.35	3.84	3.41
Fodder	21.14	34.51	25.89	21.78	13.83				23.02	20.20	9.88	8.43
	36.08	52.79	41.97	37.03	26.42				37.63	36.09	23.15	21.15
GROSS MARGIN	134.96	137.96	154.82	157.24	112.72				146.31	123.51	90.71	114.77
OVERHEAD EXPENSES												
Administration	7.73	12.53	9.00	8.03	5.09				7.97	8.11	3.94	4.37
Depreciation	17.72	32.72	21.93	16.80	10.96				18.81	17.32	10.62	7.99
Electricity and gas	1.34	2.29	1.41	1.36	0.73				1.47	1.36	0.20	0.40
Freight	7.45	5.82	7.31	7.51	8.43				7.73	7.46	4.68	8.29
Fuel and lubricants	10.74	15.84	13.05	10.10	8.35				10.96	10.74	8.82	8.51
Insurance	2.91	4.84	3.37	3.01	1.86				3.02	2.96	1.88	1.56
Materials	1.16	1.70	1.18	1.36	0.76				1.28	1.02	0.77	1.50
Motor vehicle expenses	2.85	5.98	3.66	2.64	1.57				3.03	2.72	1.63	1.39
Rates and rents	6.20	9.59	7.76	6.45	3.92				6.74	6.08	2.43	3.76
R and M general	15.95	22.88	18.87	16.19	11.79				17.06	15.18	10.09	9.18
Wages	10.94	5.89	8.80	11.13	14.02				11.29	9.98	11.93	19.99
Wages (owner)	43.81	140.00	62.44	33.34	9.32				46.02	45.94	12.84	0.00
	128.80	260.07	159.06	117.95	76.80				135.37	128.86	69.83	66.94
TOTAL OPERATING EXPENSES	164.88	312.86	201.03	154.99	103.22				173.00	164.95	92.98	88.10
EARNINGS BEFORE INTEREST & TAX												
	6.16	(122.11)	(4.24)	39.28	35.92				10.94	(5.35)	20.88	47.83
BEEF PRIMARY PERFORMANCE INDICATORS												
Price received (\$/kg LW)	\$1.76	\$1.76	\$1.78	\$1.77	\$1.76				\$1.70	\$1.81	\$1.92	\$1.92
Cost of production (\$/kg LW)	\$1.69	\$2.89	\$1.82	\$1.41	\$1.31				\$1.60	\$1.87	\$1.57	\$1.24
Operating margin (\$/kg LW)	\$0.06	(\$1.13)	(\$0.04)	\$0.36	\$0.46				\$0.10	(\$0.06)	\$0.35	\$0.67
Kg beef/AE	97.4	108.1	110.5	110.0	78.9				107.9	88.4	59.3	70.9
Labour efficiency (AE/FTE)	863	336	675	1,025	1,966				824	847	1,877	1,633
Labour costs (\$/AE)	\$54.75	145.89	71.24	44.46	23.34				57.31	55.92	24.77	19.99
BEEF SECONDARY PERFORMANCE INDICATORS												
Gross value/head sold (all sales)	\$792	\$766	\$808	\$849	\$718				\$876	\$694	\$580	\$607
Sale weight/head sold (all sales)	443	428	449	472	406				500	381	308	349
Reproductive rate %	64.5%	68.3%	66.6%	65.2%	60.5%				65.8%	64.5%	56.0%	56.5%
Mortality rate %	2.3%	2.3%	1.8%	2.0%	2.9%				1.9%	2.5%	4.3%	3.5%
Enterprise size (annual avg AE)	2,031	509	1,352	3,196	13,188				1,997	1,798	7,511	17,542
Stocking rate (AE/ha)	0.09	0.17	0.12	0.09	0.06				0.10	0.08	0.05	0.05

8.2.4. Long-term top 25% performance (herd size, markets and corporate)

	HERD SIZE			MARKET			CORP.
	200-800 (0.3%)	800-1,600 1.6%	1,600-5,400 3.8%	5,400+ 5.3%	Slaughter 2.6%	Store 2.6%	
Average	2.6%	1.6%	3.8%	5.3%	2.6%	2.6%	8.6%
Operating return	5.5%	4.4%	5.8%	5.5%	5.1%	6.6%	6.4%
Capital return	8.1%	5.9%	9.6%	10.8%	7.7%	9.3%	15.0%
Total business return	5.2%	5.9%	9.6%	10.8%	7.7%	9.3%	15.0%
BEEF ENTERPRISE INCOME STATEMENT							
	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE	\$/AE
GROSS PROFIT	186.47	233.35	226.30	161.42	203.75	177.89	155.50
ENTERPRISE EXPENSES							
Animal health	0.89	1.34	1.03	0.33	1.05	0.76	0.07
Insurance and materials	4.16	5.90	4.31	3.59	4.11	4.49	3.84
Mustering and contracting	3.92	2.87	4.02	3.75	3.91	4.45	3.99
Selling costs	4.83	6.87	5.44	4.01	4.57	5.86	2.21
Fodder	15.95	24.51	17.44	10.90	18.23	15.01	6.00
	29.75	41.49	32.30	22.58	31.87	29.81	16.10
GROSS MARGIN	156.71	191.86	194.00	138.83	171.87	148.09	139.40
OVERHEAD EXPENSES							
Administration	6.13	9.57	8.51	3.97	6.57	6.51	2.75
Depreciation	13.01	26.75	13.40	8.32	14.34	12.60	6.14
Electricity and gas	1.07	2.14	1.56	0.57	1.25	1.08	0.42
Freight	7.17	6.17	7.10	7.40	7.73	6.89	7.36
Fuel and lubricants	8.66	13.43	8.59	7.45	8.71	8.60	7.03
Insurance	2.35	3.86	3.20	1.61	2.42	2.39	1.39
Materials	1.10	1.59	1.17	0.54	1.21	0.90	0.85
Motor vehicle expenses	2.12	4.68	2.79	1.38	2.25	1.80	0.82
Rates and rents	5.08	9.83	7.55	2.85	5.52	5.29	3.59
R and M general	12.73	19.18	16.95	9.51	13.91	11.97	8.35
Wages	10.45	4.58	6.04	13.07	10.17	10.24	18.44
Wages (owner)	24.87	103.78	28.00	6.75	28.07	24.41	0.00
	94.75	205.57	102.54	63.40	102.16	92.67	57.15
TOTAL OPERATING EXPENSES	124.51	247.06	134.84	85.99	134.03	122.48	73.24
EARNINGS BEFORE INTEREST & TAX	61.96	(13.71)	91.46	75.43	69.72	55.41	82.26
BEEF PRIMARY PERFORMANCE INDICATORS							
Price received (\$/kg LW)	\$1.76	\$1.83	\$1.78	\$1.82	\$1.72	\$1.83	\$1.88
Cost of production (\$/kg LW)	\$1.18	\$1.45	\$1.06	\$0.97	\$1.13	\$1.26	\$0.89
Operating margin (\$/kg LW)	\$0.59	\$0.38	\$0.72	\$0.85	\$0.59	\$0.57	\$1.00
Kg beef/AE	105.9	131.1	127.1	88.6	118.7	97.3	82.6
Labour efficiency (AE/FTE)	1,306	452	1,237	2,222	1,204	1,338	2,964
Labour costs (\$/AE)	\$35.32	108.36	37.91	19.82	38.24	34.65	18.44
BEEF SECONDARY PERFORMANCE INDICATORS							
Gross value/head sold (all sales)	\$828	\$874	\$897	\$710	\$930	\$713	\$635
Sale weight/head sold (all sales)	464	476	493	397	528	395	360
Reproductive rate %	67.4%	71.8%	70.4%	65.1%	68.3%	69.1%	57.5%
Mortality rate %	1.9%	1.7%	1.3%	2.6%	1.4%	2.2%	3.1%
Enterprise size (annual avg AE)	3,931	649	3,478	16,639	3,640	3,543	28,753
Stocking rate (AE/ha)	0.09	0.18	0.09	0.06	0.10	0.08	0.06



PO Box 1961
North Sydney NSW 2059
Ph: +61 2 9463 9333
Fax: +61 2 9463 9393
www.mla.com.au