

final report

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Increasing organic beef production on Australian farms

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Executive Summary

This project was established to increase the number of Australian beef producers with organic certification, enabling the supply of organic beef for both domestic and export organic supply chains where demand currently far outweighs supply.

Jointly funded by Meat & Livestock Australia (MLA) and farmer owned meat exporter Australian Organic Meats (AOM Group), the project has now enabled existing beef producers to convert to Organic status through a nationally recognised certification process and training in organic livestock management.

Significant interest in organic beef production was recorded during the target market direct contact phase. Beef producers from northern Australia were more willing to try organic methods to control identified pests and diseases such as ticks and buffalo fly, as opposed to beef producers in southern states.

The production of extension resource materials, one-on-one technical extension and thorough pre-audit support to producers either considering, or in the process of, converting to organic production has been paramount in achieving the project aims. Certified organic producers received a meat price premium approximately 25% greater than that of non-organic and transition producers. This project sought to demonstrate the opportunities that organic certification for the beef industry presents through producer awareness and information sessions that quantified and demonstrated the economic benefits of organic beef production via benchmarking. However, organic certification is not a silver bullet for businesses that are not performing well. Sound business management strategies are needed prior to becoming certified organic in order to capitalise on the opportunities that certification presents.

At the commencement of the project, targets were set pertaining to the number of properties expected to be certified and/or in transition from non-organic to organic. The project correlated the increase in certified properties to direct increases in the number of organic cattle available for the organic beef markets.

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1 Background

1.1 The organic marketplace

1.1.1 Consumer demand

In Australia the sales of organic foods has increased from \$324.4 million in 2004 to \$613.3.0 million in 2014-2015. Annual growth is estimated at 6.5% in the period 2015-2020 (Tonkin 2014). Large supermarkets stocking organic produce have increased the convenience of purchasing organic products by the general public. It is estimated that over 60% of all organic food sales are attributable to supermarkets (Brennan 2013).

1.1.2 Organic beef market growth in Australia

According to the Australian Organic Market Report 2014 (ISSN 1836-0149), organic beef sales have increased since 2012, with the total value of \$198 million in 2014. This equates to a growth of 127% from 2011 to 2014.

Despite such high growth, certified organic beef producer numbers remained relatively low, with an estimated 195 producers across Australia in 2013. With few beef producers entering into organic certification, demand for organic beef was greater than available supply in 2013.

1.2 Organic beef production requirements

1.2.1 Organic farming methods

Organic farming is production without the use of synthetic chemicals and fertilisers, and places emphasis on animal welfare, sustainability and the environment. Organic farming has evolved from natural farming methods over time, and is practiced around the world.

There are organic standards, and compliance to these standards is required to become “certified organic”. These standards provide an outline of what may or may not be done – for example organic cattle cannot be treated with antibiotics or growth promoting hormones.

In organics, soil and pasture management is achieved through methods such as crop and grazing rotations rather than the reliance on synthetic inputs.

1.2.2 Organic Standards

In Australia, there is the National Standard for Organic & Biodynamic Produce (National Standards), that the Department of Agriculture administer for export, under the Export Control Act (1982).

Some overseas countries require certification to their own standard, in order to export to that country. Some of the more common standards for organic beef are the United States Dept. of Agriculture National Organic Program (USDA NOP) and the Japanese Ministry of Agriculture, Forestry and Fisheries (JAS MAFF).

There are currently six (6) organic certification bodies offering accreditation to The National Standards. These certification bodies may also have their own standard or guidelines, which provide compliance to the National Standard for Organic & Biodynamic Produce, plus any other organic standard requirements, such as overseas standards.

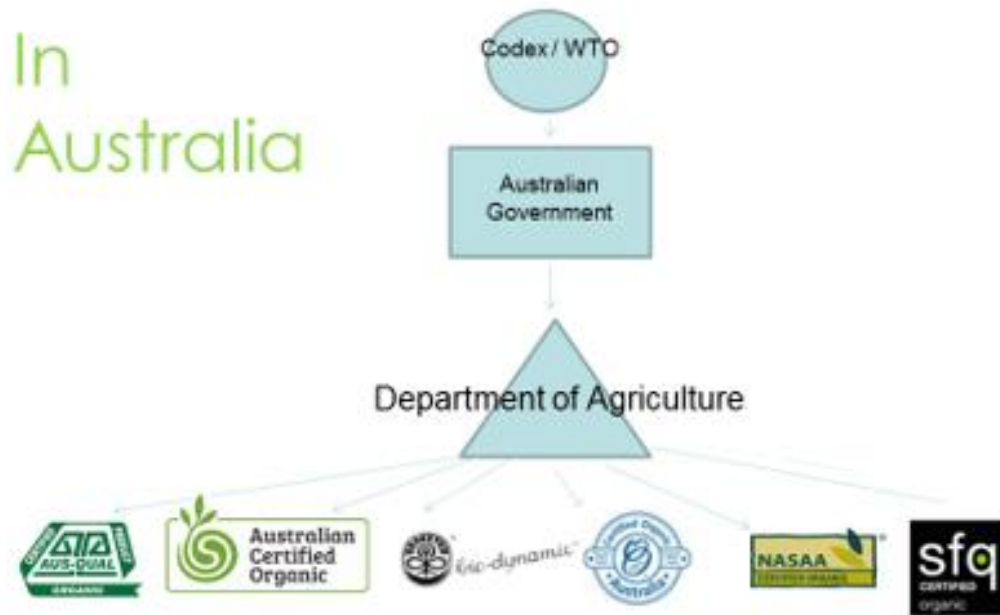


Figure 1: Australian Organic Certification Bodies current as of 30.04.15

1.2.3 The transition process

Under the Australian National Standards for Organic & Biodynamic Produce, certification for primary producers takes three years. The first 12 months is referred to as “pre-certification”.

The next two years are called “in-conversion” to organic, and the resultant product can be labelled as such. After three years (pre-certification + in-conversion), product can be certified as organic. Cattle that are already on the property prior to commencing organic management can never be called organic, but any calves born three months after the commencement of organic management and certification may be eligible for organic status. If a producer commences organic management in September, then has calves born in December, then these calves would become “in-conversion” to organic the following September. This means any breeders commencing organic management and certification (including no prohibited treatments) from the start of the third trimester of pregnancy can produce calves that are certified as organic.

1.3 The Australian organic beef sector

1.3.1 Current supply chain

In Australia there are 39 registered exporters listed on the Meat and Livestock Australia Exporter database for organic beef products.

There is significant growth in export markets for each of these wholesalers depending on their area of expertise. Growth regions include UAE / Middle East, China, SE Asia, in addition to the rapidly growing USA marketplace.

The majority of Australian supermarkets are now offering organic beef ranges. The challenge is maintaining year round supply, quality, consistency and scalability. All of which have presented a challenge.

2 Projective objectives

- Benchmark and compare a minimum of 12 certified organic businesses, a minimum of 12 businesses in transition and a minimum of 12 non-organic businesses during the 2013/14 Financial Year.
- Develop and print extension resource materials for on-farm organic beef production.
- At least 100 additional producers and / or 30,000 cattle at the “in-conversion” stage.

3 Methodology

3.1 Benchmarking

3.1.1 Data sets

Industry benchmarking was performed by Resource Consulting Services (RCS) who used their Profit Probe™ tool to analyse and compared three types of beef businesses each with a different organic certification status. A total of 34 businesses were analysed as part of this project. The businesses in this project are located in central and western Queensland in a range of rainfall regions and land types. Only businesses located in these regions and that drew greater than 75% of gross product from beef production were included.

The primary filters for the selection criteria were that all businesses were to be located in northern Australia and have > 75% Gross Product earned from beef production. All potential participants supplied by Australian Organic Meats (AOM) were approached along with eligible clients from the RCS database. There was limited interest in participating in the project. The offer to assist with preparation and presentation of the required information enticed a number of businesses to participate.

Supplements are used across large areas of central and northern Queensland to assist cattle to more effectively convert grass into productivity gains. Whilst some regions use supplements more than others (e.g. gulf country v central Queensland) the seasonal conditions also significantly influence the amount of supplement used.

The data set consisted of:

Non-organic businesses (17) These businesses supply animals to traditional markets and use conventional methods of animal husbandry, supplementation and marketing.

Businesses in transition (8) The transition period from non-organic production to certified organic production requires three years¹ compliance (minimum one year pre-certification and minimum two years of in-conversion) to the National Standard before any product from that parcel of land may be marketed and sold as organic. Meat that is produced in this period may be marketed and sold as “certified in-conversion organic”. These businesses will be referred to as ‘transition’ businesses from this point forward.

¹ The timeframe for becoming certified organic has changed since 2013-2014 financial year

Certified organic businesses (9) Once a parcel of land has been fully certified organic (after three years; pre-certification + in-conversion) the product from that land may be marketed and sold as “certified organic”. The land and the product must comply with the National Standard at all times. Audits are performed on certified organic properties to ensure they comply with the National Standards.

3.1.2 Analysis tool

Benchmarking business data for this project was prepared by Resource Consulting Services (RCS) using Profit Probe™. The process collated raw production data, financial data and property information into an Excel spread sheet which was then evaluated by RCS to ensure the validity of data. This input sheet was uploaded into Profit Probe™ and a business analysis report generated. This report was subjected to a second evaluation by an RCS analyst.

A sample of the main pages from Profit Probe™ is provided in Appendix 1. It has the following features/reports:

- Land business compared with production business at a strategic level
- Key performance indicators (KPI) for production, profitability, pecuniary (finance), people and property sustainability.

The participants in this project received detailed business management reports that included a wide range of KPIs. In the public report RCS focussed on the primary KPIs that would give readers the best overall picture of the comparison. Taking this into account, the primary KPIs have already been filtered. It is suggested readers take all the selected KPIs in the report into account when interpreting the data. If comparing to their own data, it is recommended the reader consider professional advice for full understanding and application to their own situation.

Returns on Assets (ROA) is the most universal means to interpret profit.

Additionally there are three key components to increasing ROA, referred to as the RCS Three Secrets of Profit:

- Reduce overheads
- Increase turnover
- Increase gross margin

Overhead ratio is total business overhead costs divided by gross product. The overhead ratio defines the amount of gross product or income consumed by servicing overheads or fixed costs.

Asset turnover is a function of gross product divided by closing agricultural assets. Improving turnover increases the enterprises' ability to contribute to overheads

Gross margin is a function of gross product less direct costs and indicates the margin between income and expenditure directly related to production. Gross margin is a financial measure of the efficiency of the business.

- compares KPI's to benchmarks, average and Top 20% and running individual business performance over five years.

There are acknowledged limitations with the data collected, and further collection and analysis would build on the initial study.

The original proposal made mention of a five year program which was subsequently changed to analysis of multiple businesses in the 2013/14 financial year. Section 3.2 of the initial report refers to any limitations of the data in full detail. This data provides:

- a detailed analysis of overheads, turnover and gross margins
- management accounting principles which were used with market values for all assets including the cattle, land and infrastructure, and plant and equipment. Depreciation rates were based on useful economic life rather than an arbitrary rate
- for excluding drawings from the analysis and replacing them with an unpaid labour value (comparable to market wages) based on the number of weeks worked in the business Extension Materials.

3.1.2 Organic Management Plan (OMP) template

An Organic Management Plan template was developed to take into account different beef production systems across Australia, and was based on meeting the requirements for Organic Management Plans for both the Australian organic standards and international organic standards. The template follows a standard Quality Assurance format and is designed to integrate with existing producer documents, including LPA manuals.

3.2 Producer engagement

3.2.1 Identified barriers to entry

Prior to commencement of the project, key barriers to entry were identified using a process of informal interviews of existing organic producers. These barriers were determined to be:

- Difficulty in understanding the legal requirements for organic certification and the role of certifiers
- Difficulty in choosing an organic certifier and understanding the different fee structures
- Difficulty in completing certification applications and understanding terminology used
- Difficulty in understanding and implementing the required record keeping as part of an “Organic Management Plan”
- Concern over parasite and disease control and treatments under organic standards
- Concern over market growth and future marketing opportunities for organic beef.

The project was divided into sequential steps, that addressed the barriers listed above, and provided impartial technical information based on existing organic producer’s production methodology, full disclosure of all certifiers fees and services, and current global market trends.

3.2.2 Identified and targeted prospective producers

Rather than rely on promotion alone, potential target producers were identified and contacted. The project managers identified those producers already undergoing EU

accreditation as having an understanding of record-keeping and livestock identification of a similar level required by organic standards. The EU database was utilised and producers contacted by members of Organic Systems and Solutions' (OS&S) marketing team, who followed a scripted project introduction and discussion around the upcoming producer forums. These producers were contacted prior to each producer forum in the respective state / area.

During the contact process, the key barriers to entry were enforced by the producers who were contacted, with their respective questions and concerns recorded.

Advertising of the producer forums was conducted in rural newspapers, local area newspapers, online industry newspapers, MLA online newsletters, listing in the MLA online calendar, Organic Systems & Solution's website (including online registration ability), circulation of media releases to rural area banks, social media, and through existing organic networks. In excess of 100 enquiries were received from the advertising campaign to attend the workshops, or potentially participate in the project.

3.2.3 Producer workshops

Four producer workshops were held at Emerald (QLD), Armidale (NSW), Bunbury (WA) and Roma (QLD). Webinar facilities were offered at the Armidale and Bunbury sessions, with three producers utilising this at the Armidale workshop. There were a number of beef producers interested in attending the workshops, but were unable to attend due to pre-existing commitments, time constraints, seasonal condition factors (daily drought hand feeding livestock) or distance from venue.

All participants were provided with a printed information book on organic beef production, and the information sessions were designed to maximise adult learning potential through sequential presentation of information and an open forum approach, which encouraged interaction between participants and problem solving techniques.

Workshops were divided into short sessions on the following topics;

- What is organic and the certification process?
- The current global organic marketplace
- A current organic producer's story including methods for pest and disease control
- Nutrition and feeding
- Development of an Organic Management Plan and identifying risk.

Careful consideration was given to ensuring participants were given full opportunity to engage in risk assessment to determine if organic certification would be viable on each producer's enterprise.

Producers were given the opportunity to complete feedback forms at the completion of two of the workshops. Results have been provided in milestone reports.

Producers unable to attend workshops, however interested in becoming organic, could participate in one on one telephone training sessions, using a similar format as the workshops, including the information books and risk assessment activities.

3.2.4 Commence certification process

After agreeing to participate in the project, and signing a confidentiality agreement (which included an authority to act on behalf of the producer) with OS&S, producers then underwent a more detailed risk assessment, which formed a part of the initial draft of their respective Organic Management Plan.

During this stage, all producers were given full information on each certifier's cost structures and services offered, in order to make an informed and independent decision. OS&S at no stage provided any recommendations as to which certifier for the producer to choose.

3.2.5 On farm visit and documentation

Once a certifier was chosen by the producer the initial certification application forms were completed by OS&S (and authorities to act submitted) on behalf of the producer and an on-farm visit was arranged.

A further visual risk assessment was conducted of each property, along with a gap analysis of existing paperwork and livestock management systems compared to organic requirements. Further training in the requirements of the relevant organic standards was also conducted in order to prepare for the initial on site organic audit. Property histories were also utilised (where available) to determine any potential chemical / heavy metal issues that may exist on farm as part of the risk analysis.

3.2.6 Audit

OS&S provided all liaisons between the certifier and the client regarding audit dates and any corrective actions raised during the initial desk audit. A strong focus of getting auditors allocated in the quickest time possible to allow for predicted calving dates was undertaken by OS&S. This was intended to maximise the number of resultant calves that could be considered eligible for organic status.

OS&S project officers were present at each producer's audits, and provided assistance to explain procedure and terminology to the producer. OS&S ensured all relevant documents and records were present for the organic audit, including updated property maps.

3.2.7 CAR close out and certification

OS&S provided the organic certifier with any outstanding documents and records on behalf of the client, and liaised with any corrective action requests. Soil test results were disseminated for the producer and any issues rectified via fencing if required.

All producers were issued with the initial certification status, and posted hard copies of their Organic Management Plans (OMP). Record templates and electronic copies of every relevant document were also made available to individual producers involved in the project.

3.2.8 Preparation for second audit

The requirements for the second year of the organic certification varied greatly between certifiers. OS&S staff provided updated OMPs to those producers who initiated changes in the second year, according to the certifier's requirements.

4 Results

4.1 Benchmarking

A total of 34 properties were engaged in the benchmarking exercise. The properties were distributed throughout central Queensland, predominantly in the Fitzroy River catchment, with other properties located in the southern and western regions of Queensland. There was a predominance of participants inside the cattle tick infected zone and a smaller number of properties located in the tick free zone. Eight (8) properties were located in the tick free zone (QLD) while the remaining 26 were either located on the “tick Line” or considered in the endemic tick. Figure 2 provides an approximate location for each of the enterprises involved.

- 17 Non organic properties
- 8 transition properties
- 9 certified organic properties.

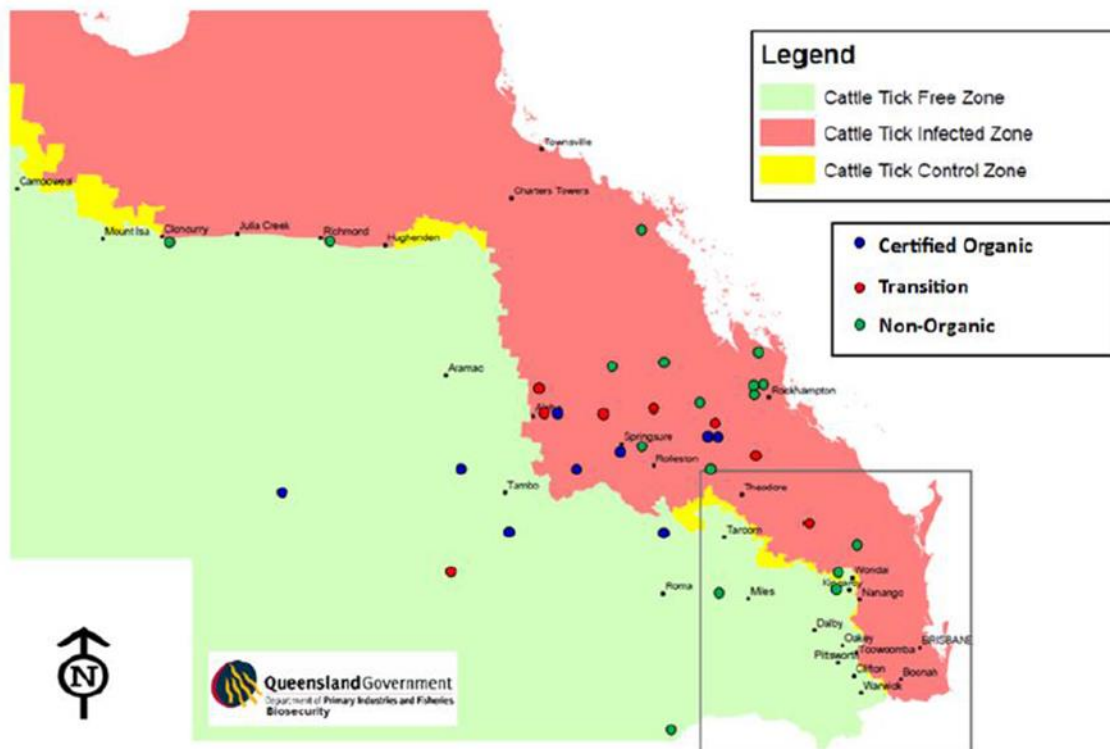


Figure 2: Project participants in relation to the tick line

The KPIs included in the RCS benchmarking report accounted for the variability of the dataset. Macro level figures are presented using box and whisker display formats to allow readers to assess the actual variation within the groups and see where the similarities and differences actually occurred.

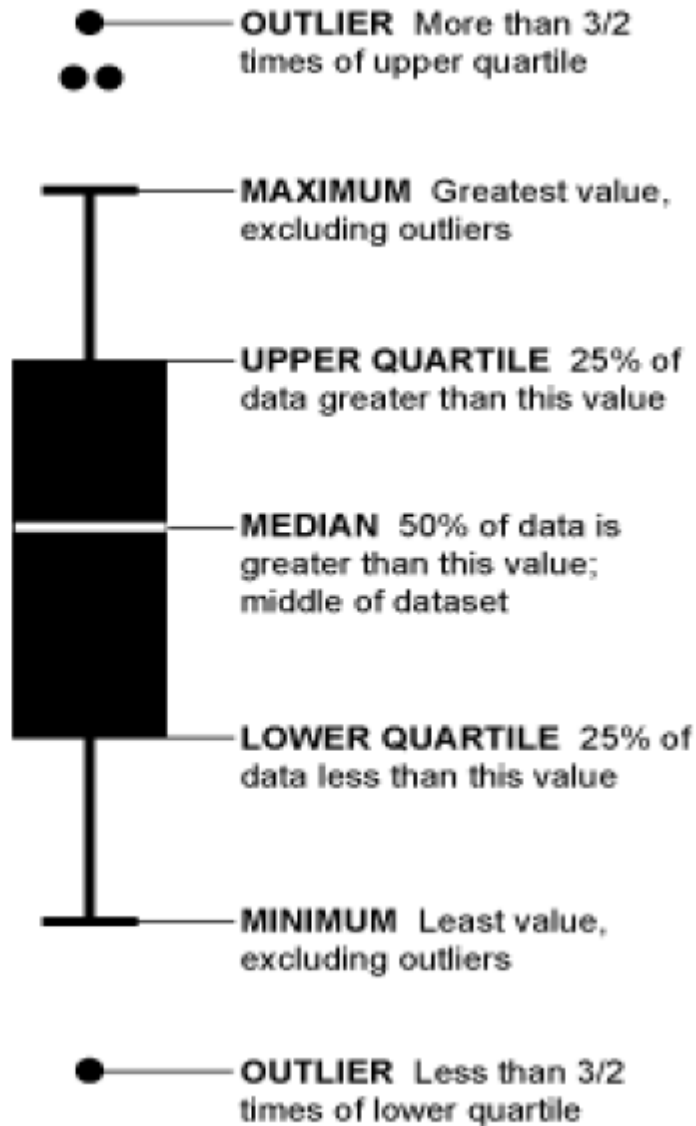
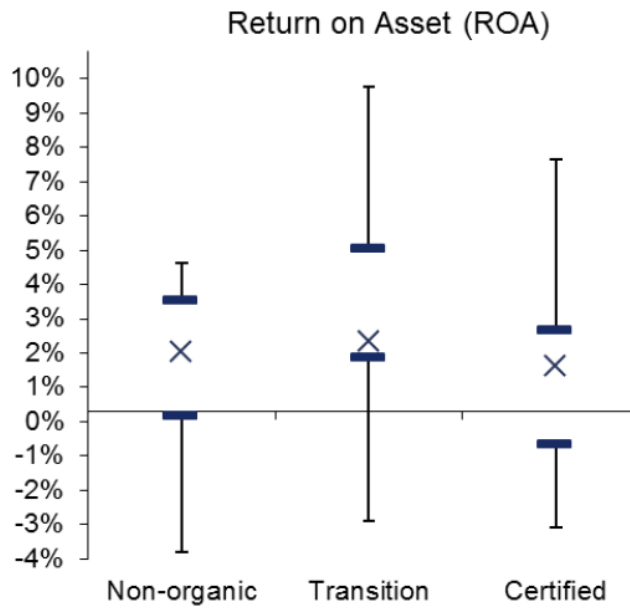


Figure 3: Interpreting a box and whisker plot

The value of such data over just one year of production is therefore rather limited as it will depend largely on seasonal conditions in the various regions analysed along with variation in market prices and developmental stage of the enterprise eg a herd that is in a build-up phase will naturally have reduced sales for that particular year and therefore gross income will be affected. The reader needs to acknowledge that this snapshot of data presented is constrained by these major limitations.

Return on Assets (ROA)



Return on Asset data for non-organic, transition and certified organic groups.

Figure 4: Return on Asset data for non-organic, transition and certified organic groups

The median ROA was marginally better for the transition enterprises and this was most evident in the range between the 25th and 75th percentiles – the band between the dark horizontal bars on graph range from just under 2% to around 5%. However, there was also obvious variation in this group as depicted by the upper and lower limits shown as the vertical lines in Figure 1.

Earnings Before Interest and Tax (EBIT)

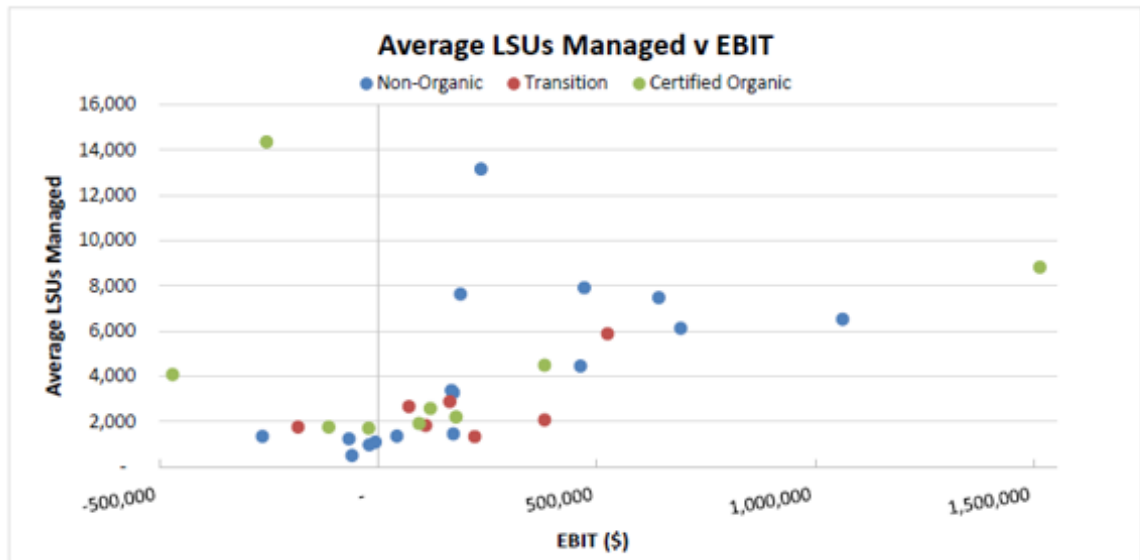


Figure 5. Average LSUs Managed v EBIT

There was a concentration of businesses of similar scale around the breakeven EBIT (Earnings before Interest and Tax) line (figure 5). Those businesses that were able to keep a cap on expenses, in particular overheads were those with a positive EBIT. Scale or increased turnover provided for an opportunity to increase profits through the ability to spread overhead costs over a greater number of production units, thus increasing EBIT. One outlier business was not included (Figure 2). This business had the benefit of outstanding cost control as well as significant scale. As a result of this combination of management factors this business was considered a significant outlier.

Cost of Production (CoP)

Data collected indicated a relationship between cost of production (COP) and Return on Asset (ROA). The RCS report indicated that many sectors of the industry still focuses on price received as the primary goal. The trend line shows a better ROA as CoP is lowered - <\$1.70/kg is essential.

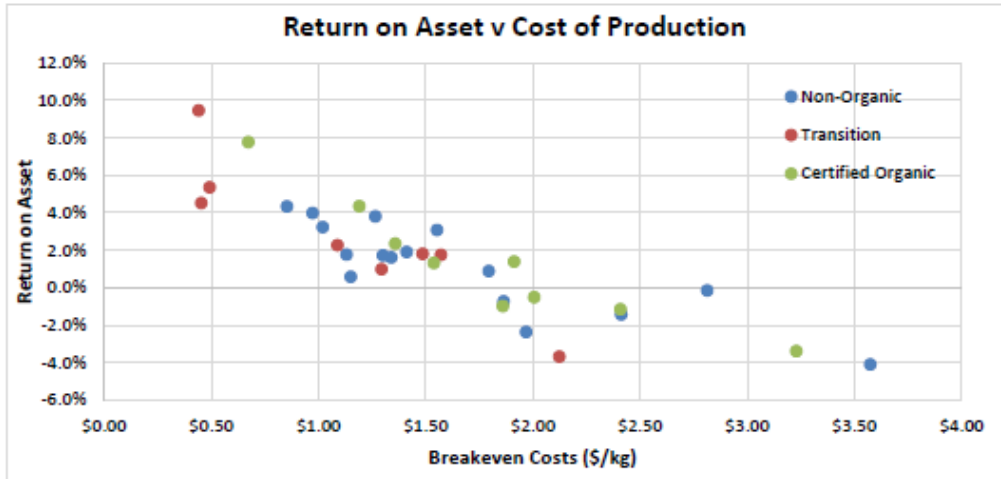


Figure 6. Return on Asset (%) v Cost of Production (\$/Kg)

Price Received

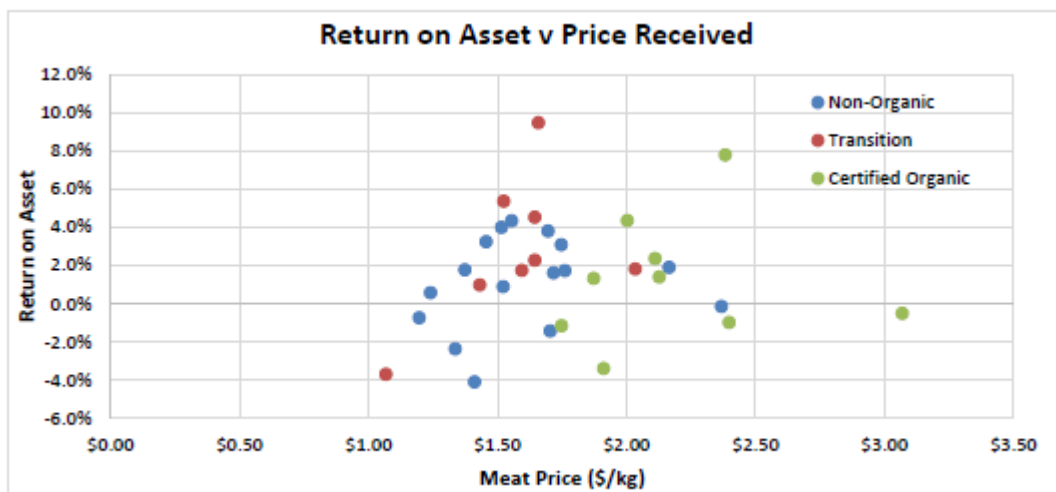


Figure 7. Return on Asset (%) v Price Received (\$/Kg)

The relationship between Price Received and ROA was poor as shown in Fig. 7.

Gross margin was calculated as follows:

$$\text{Gross Margin} = \text{Economic Gross Product} \text{ less Direct Costs}$$

Direct costs are those costs that are directly related to the number of cattle being run (primarily animal health, freight, selling costs and commission, MLA levy, supplements). The next category is overhead costs (repairs and maintenance, administration, labour, land costs).

Table 1. Gross Margin/LSU for Non Organic, Transition and Certified beef producers

	Status	Q1 (25 th percentile)	Median	Q3 (75 th percentile)
Gross Product (\$/LSU)	Non-Organic	\$139.73	\$195.90	\$255.42
	Transition	\$169.72	\$205.82	\$253.77
	Certified	\$214.04	\$237.47	\$265.72
Direct Costs (\$/LSU)	Non-Organic	\$33.39	\$56.38	\$90.87
	Transition	\$18.36	\$27.86	\$38.06
	Certified	\$28.89	\$49.85	\$101.95
Production Gross margin (\$/LSU)	Non-Organic	\$112.45	\$139.41	\$172.17
	Transition	\$138.12	\$187.98	\$223.58
	Certified	\$129.02	\$191.23	\$197.94

Gross margins for certified producers was marginally better than the transition enterprises while the non-organic enterprises are considerably lower (Table 1).

Group Overheads per LSU

To allow meaningful business analysis and benchmarking, the financial information for business needs to be broken down into logical chunks. The next level after gross margin is EBIT which is calculated as follow:

EBIT = Gross Margin *less* Overhead Costs

ROA is then able to be calculated as follows:

ROA % = EBIT *divided by* Closing Agricultural Assets Managed x 100

Taking this into account a business can have a positive gross margin, and have a negative ROA if the total of direct costs and overheads is greater than gross product generated. This could be due to one of three factors:

1. low gross product
2. direct costs too high relative to gross product generated or
3. overhead costs too high

All analysis groups have businesses that returned a negative ROA. The reasons for this result varied for different businesses. With regard to the query about overhead costs being higher for certified organic businesses the different businesses showed a range of costs bases for all groups as shown in following graph. The report contained detailed information regarding cost comparisons for the different groups.

The overhead costs per LSU managed were:

Group	Average result	Top 20% result (based on ROA)
Certified Organic	\$106	\$70
Transition	\$60	\$40
Non-Organic	\$87	\$58

In summary, these data indicated that management strategies, decision making and the overall business model had a bigger impact on cost basis than organic certification. The transition businesses above had the same limitations associated with management as the certified organic businesses and had the lowest overhead costs basis.

Overhead ratio

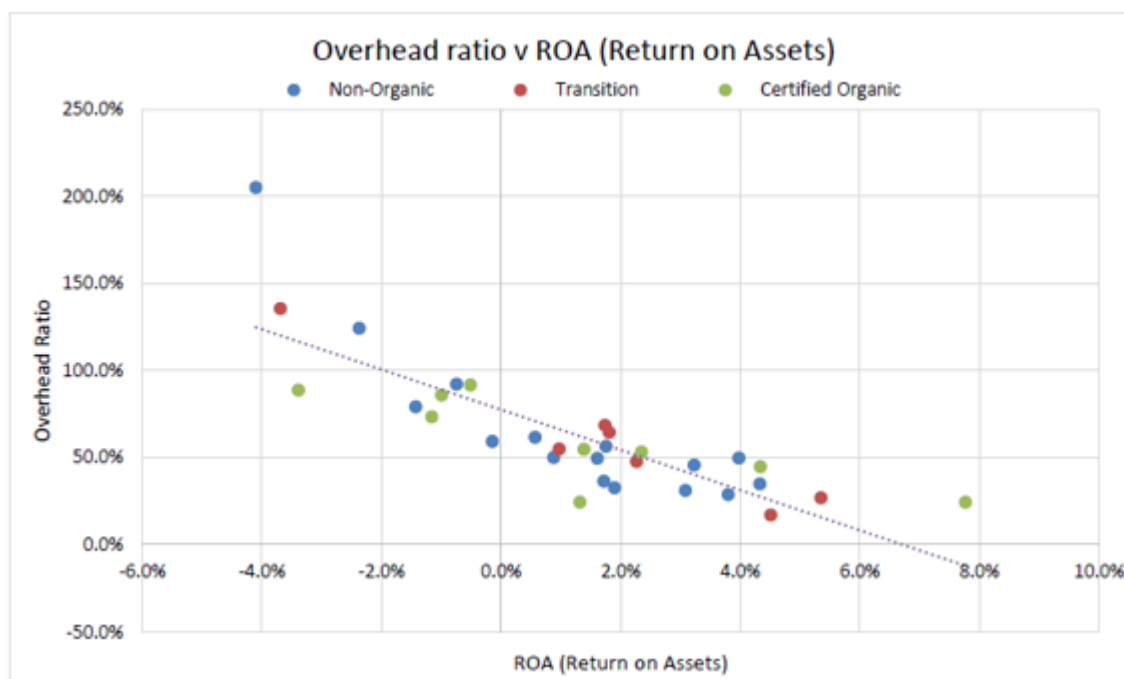


Figure 8. Overhead Ratio v ROA (Return on Assets)

Overhead ratio was a major driver of businesses not achieving a positive ROA (Fig 8). One of these businesses had an overhead ratio of greater than 200% in that overheads were twice the value of Gross Product (or sales plus closing inventory). ROA for this business was approximately -4%. At the other end of the scale another business achieved an 8% ROA with an overhead ratio of 30%.

4.2 Producer engagement

4.2.1 Flyer

Extension materials were developed by Organic Systems and Solutions Pty Ltd and was designed to be a stand-alone information guide to the organic requirements for beef production in Australia. Information provided included a n explanation of the term “organic”, the time frames to convert to organic beef production, the applicable organic standards, the certification process and organic management plans, and a listing of all current Australian organic certification bodies under the National Standards for Organic and Biodynamic Produce.

4.2.2 Training Manual and Videos

A training manual was developed to be used in conjunction with the Organic Management Plan template, by suitably qualified training experts, and peer reviewed. The training manual

provided an extension to the materials presented during the workshops and an overview of organic standards, requirements and the certification system.

The training manual provided feedback and reference checks at the end of each section to allow for consideration of how the information could be used in each individual enterprise.

Topics discussed at the workshops were developed into on-line training videos, which have been utilised for those interested producers who were unable to attend.

These videos can be viewed at

<http://organicsystemsandsolutions.com/australian-organic-beef/>

4.2.3 Producer workshops

Four producer workshops were conducted across four states as part of objective 2; “At least 100 additional producers and/or 30,000 cattle at the in-conversion stage.” The outcomes of these producer workshops are summarised below:-

- 92 participants attended four producer workshops
- 25 producers across four states were certified organic or in-conversion. A further 8 producers withdrew from the product due to seasonal condition factors.
- 48,050 additional breeder cattle were transferred to organic management as of 30th April 2015.
- By using the estimated calving percentage of 70% average at weaning, and a retention of 20% of heifer calves, it was estimated that 30,272 head of slaughter cattle could be in-conversion to organic in 2015

5 Discussion

During the course of this project, significant interest was shown by producers in central Queensland, and in particular, those located in tick areas. A significant number of producers from tick declared areas indicated that they were currently considering organic beef production; however there were reservations as to moving from current management practices to organic production, if there were no alternative tick control methods that could be implemented. Currently, organic beef production occurs across all states and territories in Australia.

Significant interest in organic beef production was recorded during the target market direct contact phase. Beef producers from northern Australia were more willing to try organic methods to control identified pests and diseases such as ticks and buffalo fly, as opposed to beef producers in southern states.

Concerns from southern beef producers included worm control (particularly those who grazed sheep in addition to cattle) and weed control, from those producers who also had cropping enterprises.

The workshops provided excellent opportunity for problem solving and producer engagement. Careful selection of the presenters ensured only those presenters with producer empathy and practical beef production experiences were engaged. Information was presented on products available for use in organic beef production, including feed supplements and livestock treatments. Producers were encouraged to disseminate the information presented and discuss with other members of the respective enterprise before joining the project. Organic Systems and Solutions Pty Ltd provided additional telephone / email support to the workshop participants after each event to further facilitate the decision making process.

Significant challenges encountered during the project included:

- Inconsistencies between organic certification bodies, with relation to interpretation of international standards changes and record keeping requirements.
- Service delivery from organic certifiers varied greatly – some took up to six months to allocate an audit. Costings from some certifiers were difficult to obtain, as they relied on location rather than a standardised fee schedule.
- Some organic certifiers appeared to not be sufficiently resourced to deal with an influx of new clients.
- Some producers began the certification process and then withdrew from the program. Reasons for this included seasonal conditions and the inability to access organic compliant supplementary feeding.
- Lack of suitable property mapping and data with some producers.
- Changes in international standards occurring frequently resulting in a need for constant extension service.

6 Meeting project outcomes

6.1.1 Benchmark and compare a minimum of 12 certified organic businesses, a minimum of 12 businesses in transition and a minimum of 12 non-organic businesses during the 2013/14 FY

Seventeen (17) non-organic businesses, eight (8) businesses in transition towards organic certification and nine (9) fully certified organic businesses were benchmarked and compared according to the 2013/ 2014 financial year. The methodology of extracting data was considered robust in order to facilitate the benchmarking process, despite the difficulties in engaging suitable organic and in transition businesses.

6.1.2 Develop and print extension resource materials for on-farm organic beef production

A major investment from producers has been the compilation of property data including maps, livestock inventories and chemical use records. Resources generated by this project included templates for capturing property data as well as provisions for maintaining records in a format that can be easily updated.

6.1.3 At least 100 additional producers and/or 30,000 cattle at the “in-conversion” stage

In order to have the most relevant cattle number estimates available to estimate future supply availability breeder numbers were recorded then the “slaughter cattle” numbers extrapolated.

This was based on the following assumptions:

- Breeder numbers with an annual calving percentage average of 70% calculated at weaning.
- Retention of 20% heifer calves as replacement females annually based on 50% females in calving.

All producers had additional cattle on farm at the time of the Risk Assessment being conducted; however only cattle born after organic management has commenced may be eligible for organic status. Some participants indicated that an overall change in management will result in less long term grass fed cattle being kept on property, and an increase in breeder number will result.

7 Conclusions/recommendations

Organic certification is not a silver bullet for businesses that are not performing well. Sound business management strategies need to be in place prior to becoming certified organic in order to capitalise on the opportunities that certification presents. Certified organic producers received a meat price premium approximately 25% greater than that of non-organic and transition producers.

Significant interest in organic beef production was recorded during the target market direct contact phase. Beef producers from northern Australia were more willing to try organic methods to control identified pests and diseases such as ticks and buffalo fly, as opposed to beef producers in southern states.

Following on from the success of this initial project it is recommended that a subsequent project be conducted.

The resources generated for this project provide a sound basis for producers wishing to become organically certified, however further development of these resources and the provision of additional resources would assist in cementing the integrity and longevity of the organic beef supply sector. Additional or extended resources may include – further on-line video tuitions, digital property mapping training and software availability.

Ongoing monitoring, review and follow-up of the producers involved in this initial project, together with new entrants to the organic market would also aid in growing the organic sector well into the future.

Further work may be necessary to develop “organic-compliant” feed supplements in sufficient quantities that will allow producers to remain in the organic certification process despite adverse seasonal conditions.

8 Key messages

Aside from improving the supply of organic beef, increased numbers of organic certified beef producers have the potential to improve the overall profitability of the beef sector where certified producers can receive significant economic advantages over their non-certified counterparts.

A report prepared by Resource Consulting Services (RCS) comparing business performance between non-organic, in transition and organic beef producers in northern Australia found that converting from non-organic to certified organic beef production will be easier and more cost effective for producers already using few non-organic inputs eg. urea based supplements and chemicals. Controlling and reducing cost of production (direct costs and overheads) should be a focus for all producers who wish to convert to organics.

Becoming certified organic provided higher premiums at the expense of cost of production.

The report clearly states that organic certification is not a silver bullet for businesses that are not performing well. Sound business management strategies need to be in place prior to becoming certified organic in order to capitalise on the opportunities that certification presents.

The ability of a producer to control cost of production has the biggest impact on profitability as evidenced by results of producers in the RCS report. Certified organic producers received a meat price premium approximately 25% greater than that of non-organic and transition producers.

The continuation of the beef industry towards increased numbers of organically certified producers can not only increase supply of highly sought after organic beef but may also assist in the overall economic improvement of the beef industry in general.

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10 Appendices

10.1 Organic beef production in northern Australia: Analysis of business performance for non- organic, transition and certified organic businesses in the 2013/14 financial year. Prepared by Resource Consulting Services March 2015

10.2 Addendum to Organic beef production in northern Australia: Analysis of business performance for non-organic, transition and certified organic businesses in the 2013/2014 financial year. Prepare by Resource Consulting Services July 2015

10.3 Resource material

<http://organicsystemsandsolutions.com/australian-organic-beef>

10.4 Videos

<http://organicsystemsandsolutions.com/australian-organic-beef>

10.5 Cattle numbers

Organic Beef Production in Northern Australia

Analysis of Business Performance for Non- Organic, Transition and Certified Organic Businesses in the 2013/14 Financial Year

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March 2015



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Disclaimer

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As this is an analysis of only one financial year and limited numbers of businesses per group, all quotes and references made to this report must be made with reference to the whole report. RCS shall not be responsible in any way whatsoever to any person who relies in whole or in part on the contents of this report.

Executive Summary

The findings of this report illustrate a range of profitability and variability between non-organic, transition and certified organic businesses, reflecting the reality of the current beef industry. This project has highlighted that this variability is a direct result of scale, cost of production, market premiums and seasonal conditions.

The three different status groups in this project returned similar median return on asset (ROA) results. Becoming certified organic provided higher premiums at the expense of cost of production. This relationship emphasises that the ability of a producer to control cost of production has had the biggest impact on profitability throughout this project.

Within the beef industry there is an assumption that expenses will be higher for a certified organic business compared to businesses supplying traditional markets. While being certified organic places restrictions on the types of inputs that can be used and adds some additional certification costs, there are significant premiums available for producers willing to adhere to the Nation Standard.

The results of this project clearly demonstrate that certified organic producers receive a meat price premium approximately 25% greater than that of non-organic and transition producers. In addition, certified organic businesses achieved the highest asset turnover ratio. This result can be attributed directly to the premiums received for certified organic beef. As these results are based on 12 months of sales data and take in to consideration the fluctuations in meat prices, they demonstrate the benefit non-organic and transition businesses may receive if they were to convert to certified organic.

Larger beef businesses have an added opportunity to further leverage premiums available for certified organic beef and to increase their gross margin. Regardless of scale or market destination this project consistently highlighted that those producers that were able to control cost of production achieved sound economic returns.

Seasonal variation has had a large impact on the results of this project, within groups and indeed between groups in terms of cost of production in relation to additional supplements, agistment or freight required to maintain and assist livestock performance under the adverse conditions experienced during the 2013-14 financial year.

Producers that already strategically manage sound businesses can capitalise on the opportunity that supplying certified organic products provides. Organic certification is not a silver bullet for businesses that are not performing well. Sound business management strategies need to be in place prior to becoming certified organic in order to capitalise on the opportunities that certification presents.

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1.0 Introduction

Organics is a particular way of producing food in accordance with the AUS-QUAL National Standard for Organic and Biodynamic Produce. It favours natural inputs and does not allow use of fertilisers, antibiotics, synthetic chemicals or growth hormones etc. The organic certification process relates to a particular parcel of land and historically took three years to achieve. There is a period between non-organic status and certified organic status which is called in “conversion” or in “transition”. Each year transition and certified organic businesses are audited to ensure they comply with all National Standards.

In funding this analysis co-operatively, Australian Organic Meat (AOM) and Meat and Livestock Australia (MLA) sought an independent 3rd party to research the profitability of the various stages of organic certification (from non-organic beef production through to post organic certification). The information found in this report will assess the differences, similarities, and relationships between each status group and discuss the reasoning behind these results. This data should be built on in coming years to increase availability of robust financial and production data in this area.

2.0 Background

A combination of increasing input costs, seasonal variability, debt imposed constraints, inflexible management styles and uncertain commodity prices has decreased profit margins for beef producers in northern Australia. RCS Profit Probe™ data has shown that the average beef producer in northern Australia has spent more than they have earned in 12 of the past 13 years.

More recently, the deteriorating seasonal conditions and uncertainty of live export markets following the live export ban in June 2011 (figure 1), have had a flow on effect on key performance indicators across the industry as producers sell livestock to capitalise on market opportunity.

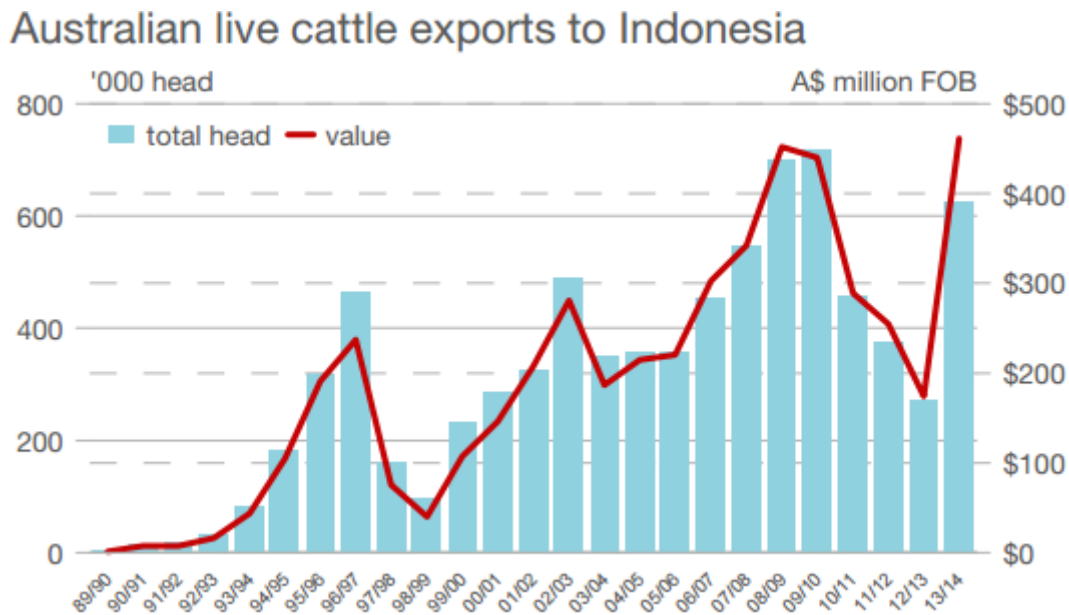


Figure 1. Australian Live Cattle Exports to Indonesia (ABS, 2015)

The live export ban had an impact across all beef markets which coincided with the end of a very good wet season (figure 2). Stations across much of northern Australia were stocked to capacity and the national herd was building. Stock that had been scheduled for live export out of northern Australia were either held on station or moved to southern markets. Those producers who chose to hold onto stock in the belief that the live export ban would be short term ended up overstocking their properties as seasonal conditions deteriorated (figure 3). As the Eastern Young Cattle indicator (figure 4) outlines, the combination of these conditions had a detrimental effect on price received. These circumstances also led producers to contemplate alternative markets in order to add options should they run into similar market circumstances in the future. Becoming certified organic was one of these options. Growing demand for food with certified clean green origins from overseas and the domestic markets has also more recently created an opportunity for producers to consider the option of gaining accreditation into the Certified Organic Beef market.

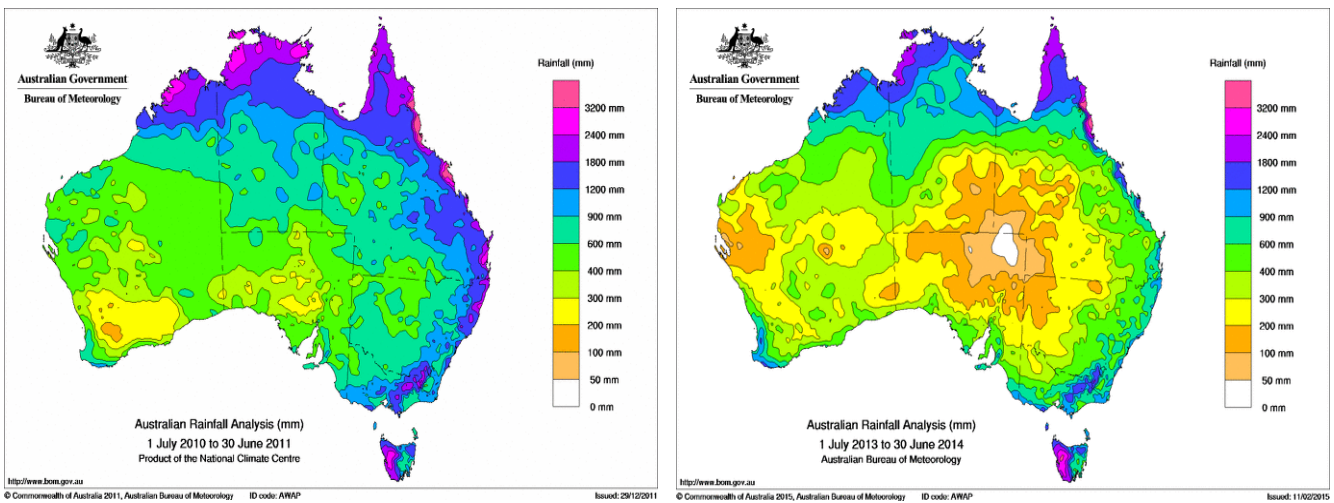


Figure 2. Australian Rainfall Analysis. Left: June 10 - July 11. Right: July 13 - June 14 (BOM, 2015)

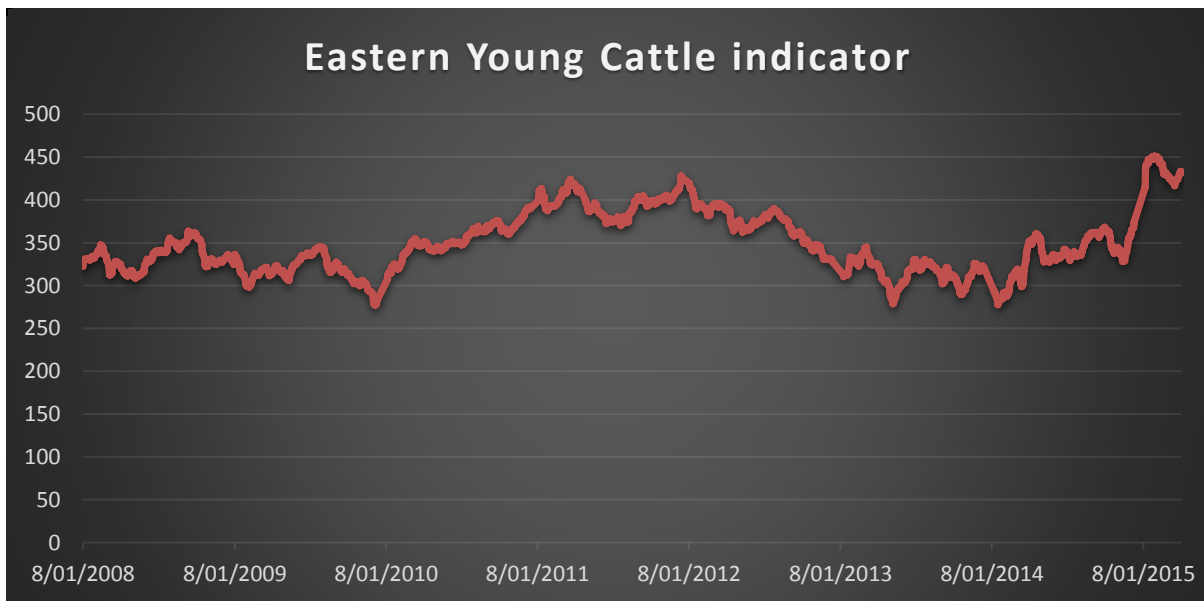


Figure 3. Eastern Young Cattle Indicator - Price Received (c/kg) 2008 to 2015 (MLA, 2015)

Broadly speaking there are three groups of producers attracted to organic certification. These groups are not exclusive and do overlap at times. Group one is a group of producers who are attracted to the ethical principles of 'clean and green production' and holistic rangeland management. The second group are made up of operations that are able to transition into organics with relative ease eg. Minimal chemicals used and overall low input operations. The final group are those producers that are simply attracted by the premiums available to certified organic producers.

Traditionally quality assurance and marketing schemes have been met with scepticism by producers and the same can be said for organic certification. Current market and seasonal conditions, in addition to awareness of the growing demand for organic beef, have encouraged beef producers to look at organic certification as an alternate income generator. There is a view that auditing expenses and additional direct costs associated with the ongoing management of organic livestock could outweigh the premiums offered in comparison to participating in the mainstream market. The aim of this project is to uncover whether the costs associated with being organic surpass the economic benefits of certified.

3.0 Methodology

3.1 Data Sets

This benchmarking project analysed and compared three types of beef businesses each with a different organic certification status. A total of 34 businesses were analysed as part of this project. The businesses in this project are located in central and western Queensland in a range of rainfall regions and land types. Only businesses located in these regions and that drew greater than 75% of gross product from beef production were included.

RCS would like to acknowledge the businesses that provided their data to build the information researched in this report. We encourage them to continue benchmarking and further building on this data set for further research to benefit themselves and the beef industry decision making process.

The data set consists of:

- **17 non-organic businesses.** These businesses supply animals to traditional markets and use conventional methods of animal husbandry, supplementation and marketing.
- **8 businesses in transition towards organic certification.** The transition period from non-organic production to certified organic production requires three years¹ compliance (minimum one year pre-certification and minimum two years of in-conversion) to the National Standard before any product from that parcel of land may be marketed and sold as organic. Meat that is produced in this period may be marketed and sold as "certified in-conversion organic". These businesses will be referred to as "transition" businesses from this point forward.
- **9 fully certified organic businesses.** Once a parcel of land has been fully certified organic (after three years of transition) the product from that land may be marketed and sold as "certified organic". The land and the product must comply with the Nation Standard at all

¹ Timeframe for becoming certified organic has changed since the 2013-14 financial year.

times. Audits are performed on certified organic properties to ensure they comply with the National Standards.

3.2 Analysis Tool - Profit Probe™

Data for this project was collected using a proprietary Resource Consulting Services (RCS) business analysis and benchmarked program called Profit Probe™. The process starts by collating raw production data, financial data and property information into a Microsoft Excel input sheet where it is then evaluated by an RCS analyst to ensure the validity of data. This input sheet is then uploaded into the Profit Probe™ program and a business analysis report is generated. This report undergoes a second evaluation by an RCS analyst.

A sample of the main pages from Profit Probe™ is provided in Appendix 1. It has the following features/reports:

- It reports on the land business versus the production business at a strategic level.
- It provides key performance criteria (KPI) in production, profitability, pecuniary (finance), people and property sustainability.
- It compares KPI's to benchmarks, average and Top 20% and running individual business performance over five years.
- It provides a detailed analysis of overheads, turnover and gross margins.
- Management accounting principles were used with market values for all assets including the cattle, land and infrastructure, and plant and equipment. Depreciation rates were based on useful economic life rather than an arbitrary rate.
- Drawings are excluded from the analysis and replaced with an unpaid labour value (comparable to market wages) based on the number of weeks worked in the business.

3.2.1 Limitations of the Profit Probe™ Data

Businesses benchmarked in Profit Probe™ firstly submit their raw data to RCS, who then analyse the information. Discrepancies, errors or omissions of data are picked up either during the input or analysis phase at the highest possible level. The accuracy of the raw data provided is beyond the control of RCS and so may not completely reflect the actual situation. Businesses analysed that were not considered to truly reflect a beef enterprise or a true business result for that particular group are not included in any stage of this analysis.

In this project over half of the input sheets (17+) were completed by an RCS analyst working with the producer on farm. This method of data collection reduces entry errors, however the validity of the data entered still relies on the producer themselves.

The other limitation to the data arises from the sample size. In this project a total of 34 businesses were analysed with a range of 8 to 17 in each analysis group (non-organic, transition and certified organic). 34 businesses is a small total sample size which must be considered when interpreting the results of this project.

A portion of the businesses contributing to this data set had never completed benchmarking before. It is common that the type of data needed for a full production and financial analysis of this type is not

available the first time as accurately as desired. This consequently can reduce the confidence level of the data.

As this is an analysis of only one financial year and limited numbers of businesses per group, all quotes and references made to this report must be made with reference to the whole report.

3.2.2 Benchmarking

Within this project businesses have been benchmarked against other businesses in their status group (non-organic, transition and certified organic). Some care needs to be taken when viewing the group benchmark data, particularly in the certified and transition data sets as the number of businesses analysed is only 9 and 8 respectively. Therefore, the number of businesses in the top 20% is as low as one business in most cases. For this reason, box and whisker plots have been used to emphasis the median data for the most part with variations between each quartile (box) and the spread of data (whiskers) addressed where applicable.

3.2.3 Statistical Analysis

Box and whisker plots have been used throughout this report to emphasis the median data and to show the variations between each quartile (box) as well as the spread/range of data (whiskers). The following diagram outlines how to interpret a box and whisker plot. Throughout this report the upper quartile will be referred to as Q3 and the lower quartile will be referred to as Q1.

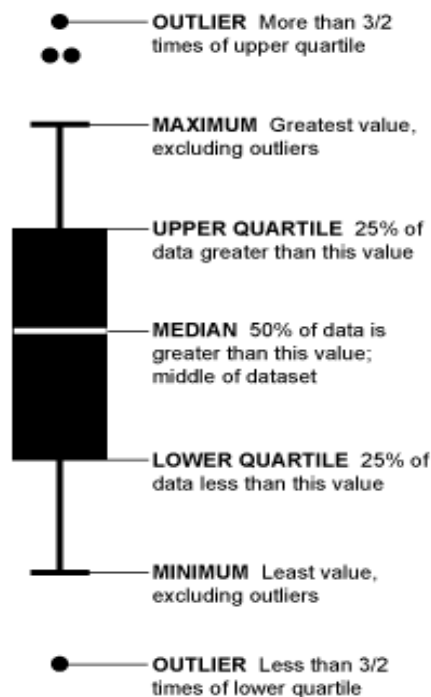


Figure 4. Interpreting a box and whisker plot

In this data set some metrics included statistically identified outliers. These outliers have been represented on the box and whisker plots as red asterisks. In the case where the data set for a particular metric included an outlier, the whiskers are set at 3/2 (1.5) times the inter-quartile range (the difference between Q3 and Q1). In the case where a statistical outlier was not present the whiskers represent the minimum and maximum values.

4.0 Results

4.1 Profitability (economics)

4.1.1 Return on Asset (ROA)

For this data set the three different status groups returned similar median results for ROA. Return on asset is a measure of business profitability (earnings before interest and tax) in relation to the agricultural asset. Figure 2 highlights that transition businesses in the third and fourth quartiles outperformed certified organic businesses and non-organic businesses in the 2013/14 financial year.

Table 1. Return on Asset results for non-organic, transition and certified organic groups.

Status	Q1 (25 th percentile)	Median	Q3 (75 th percentile)
Non-Organic	-0.29%	1.67%	3.12%
Transition	1.55%	2.04%	4.72%
Certified	-0.99%	1.32%	2.35%

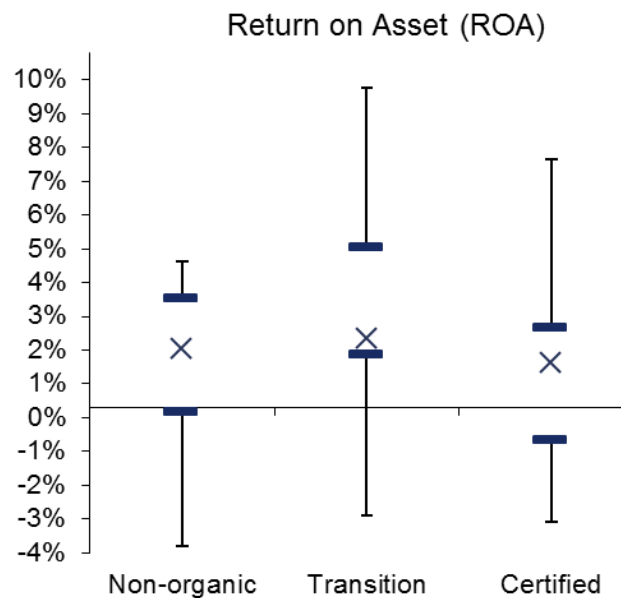


Figure 5. Return on Asset data for non-organic, transition and certified organic groups.

4.1.2 Expense Ratio

Based on median group results, transition businesses spent less of their generated income in comparison to the other groups. The expense ratio indicates the relationship between total economic costs (direct costs, overheads and finance) and economic income. Figure 3 shows that certified businesses had a narrower range of data (lowest maximum expense ratio) but had the highest level of expenditure based on median results. Non-organic and transition businesses had a greater spread of data (highest and lowest expense ratios) but performed better than certified businesses based on median results.

Table 2. Expense Ratio results for non-organic, transition and certified organic groups.

Status	Q1 (25 th percentile)	Median	Q3 (75 th percentile)
Non-Organic	90.30%	105.86%	137.09%
Transition	62.65%	78.10%	109.28%
Certified	93.92%	111.10%	134.92%

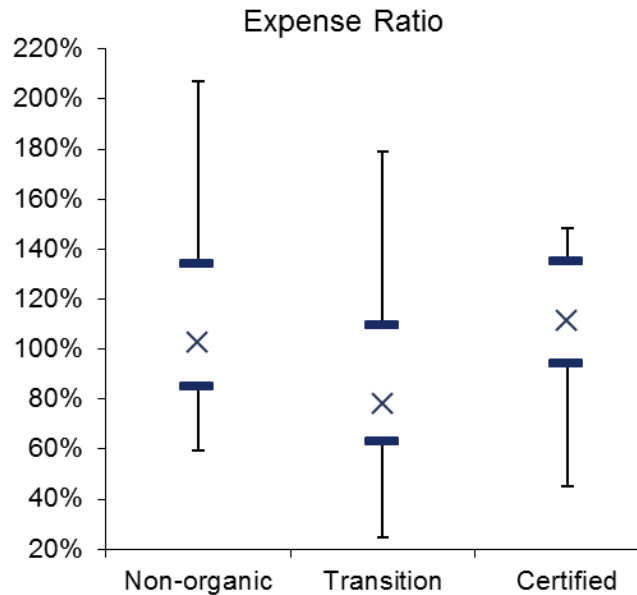


Figure 6. Expense Ratio data for non-organic, transition and certified organic groups.

4.1.3 Asset Turnover Ratio

Certified businesses in this project outperformed both non-organic and transition businesses with the highest median asset turnover ratio result and the narrowest range of results in all quartiles. Asset turnover is a function of gross product divided by closing agricultural assets. This metric outlines the value of production generated from the asset. One business in the transition group had an outlying asset turnover ratio of 13.5%. Disregarding this outlier, the non-organic group of businesses had both the highest and lowest asset turnover ratios within the inter-quartile range (IQR) which created a large spread.

Table 3. Asset Turnover Ratio results for non-organic, transition and certified organic groups.

Status	Q1 (25 th percentile)	Median	Q3 (75 th percentile)
Non-Organic	4.85%	6.95%	8.47%
Transition	5.81%	6.72%	8.03%
Certified	7.85%	8.23%	10.84%

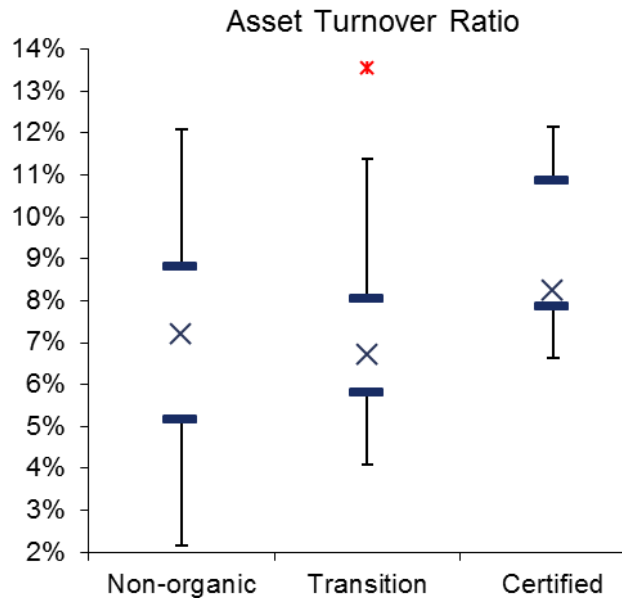


Figure 7. Asset Turnover Ratio data for non-organic, transition and certified organic groups.

4.1.4 Overhead Ratio

Within the IQR (excluding outliers) the non-organic group of businesses consistently had a lower overhead ratio based on median results. Overhead ratio is total business overhead costs as a function of gross product. This metric indicates what percentage of gross product generated by the business is spent on overhead costs (labour, land, maintenance and administration costs). Both the non-organic and transition groups had outliers and a greater range of results in quartile four.

Table 4. Overhead Ratio results for non-organic, transition and certified organic groups.

Status	Q1 (25 th percentile)	Median	Q3 (75 th percentile)
Non-Organic	36.13%	49.94%	66.03%
Transition	24.89%	51.32%	65.46%
Certified	44.78%	54.70%	85.84%

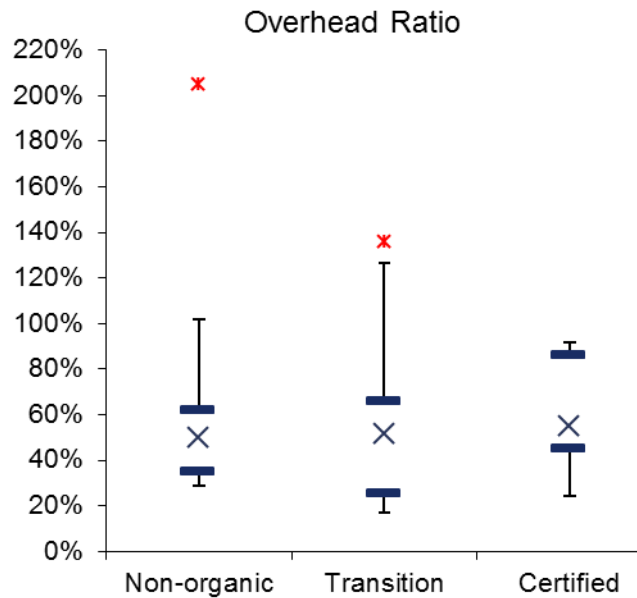


Figure 8. Overhead Ratio data for non-organic, transition and certified organic groups.

4.1.5 Gross Margin Ratio (economic)

Transition businesses in this project had a higher economic gross margin compared to both non-organic and certified organic businesses. Gross margin is a function of gross product less direct costs and indicates the margin between income and expenditure directly related to production. Transition businesses have the tightest range of result and the highest median result when compared to certified organic and non-organic businesses. Certified organic businesses had the widest range of results and the lowest gross margin results (based on the minimum).

Table 5. Gross Margin Ratio results for non-organic, transition and certified organic groups.

Status	Q1 (25 th percentile)	Median	Q3 (75 th percentile)
Non-Organic	37.44%	45.76%	53.80%
Transition	59.49%	68.84%	71.76%
Certified Organic	24.01%	59.84%	60.51%

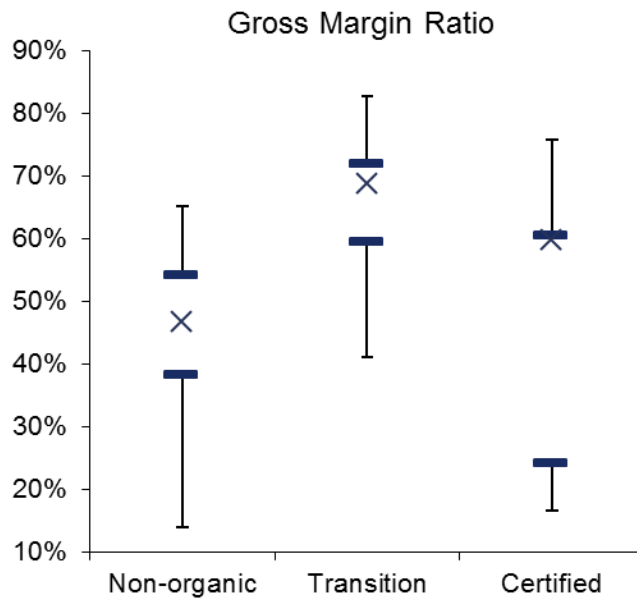


Figure 9. Gross Margin Ratio data for non-organic, transition and certified organic groups.

4.1.6 Finance Ratio

Transition businesses are more highly geared in comparison to the non-organic and certified organic businesses in this project. Finance ratio is a function of interest and equipment leases divided by gross product. It indicates how much of generated gross product is spent on servicing debt. Certified businesses spent less on servicing debt with a median of 13% and a narrower range in comparison to the other groups. The non-organic group has a statistically identified outlier.

Table 6. Finance Ratio results for non-organic, transition and certified organic groups.

Status	Q1 (25 th percentile)	Median	Q3 (75 th percentile)
Non-Organic	14.69%	22.40%	27.38%
Transition	8.35%	29.27%	34.83%
Certified	7.48%	13.13%	28.76%

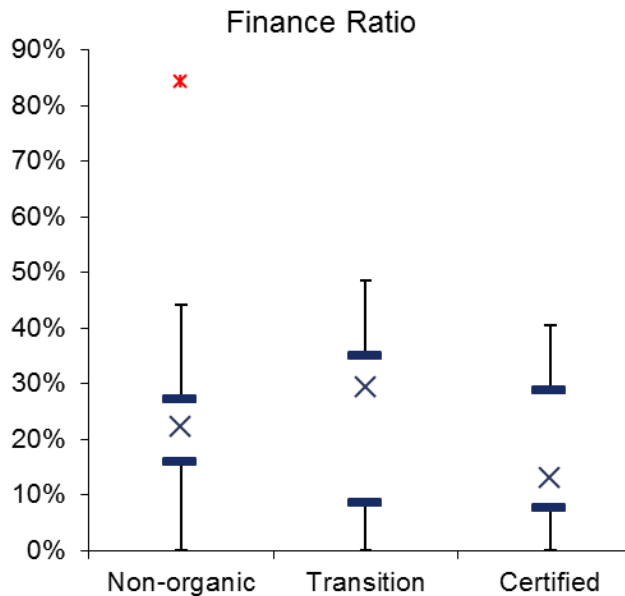


Figure 10. Finance Ratio data for non-organic, transition and certified organic groups.

4.2 Productivity

4.2.1 Production Gross Margin (\$/LSU)

Certified organic businesses generated a higher gross product in comparison to transition and non-organic businesses (based on median results). Transition businesses in this project had the lowest median direct costs. Productivity per large stock unit (LSU) is a function of gross product minus direct costs. This metric specifically measures production gross margin without considering opportunity costs. Even though transition businesses had the lowest direct costs, certified organic businesses returned the greatest production gross margin which was predominantly driven by gross product rather than direct costs.

Table 7. Production Gross Margin \$/LSU results for non-organic, transition and certified organic groups.

	Status	Q1 (25 th percentile)	Median	Q3 (75 th percentile)
Gross Product (\$/LSU)	Non-Organic	\$139.73	\$195.90	\$255.42
	Transition	\$169.72	\$205.82	\$253.77
	Certified	\$214.04	\$237.47	\$265.72
Direct Costs (\$/LSU)	Non-Organic	\$33.39	\$56.38	\$90.87
	Transition	\$18.36	\$27.86	\$38.06
	Certified	\$28.89	\$49.85	\$101.95
Production Gross margin (\$/LSU)	Non-Organic	\$112.45	\$139.41	\$172.17
	Transition	\$138.12	\$187.98	\$223.58
	Certified	\$129.02	\$191.23	\$197.94

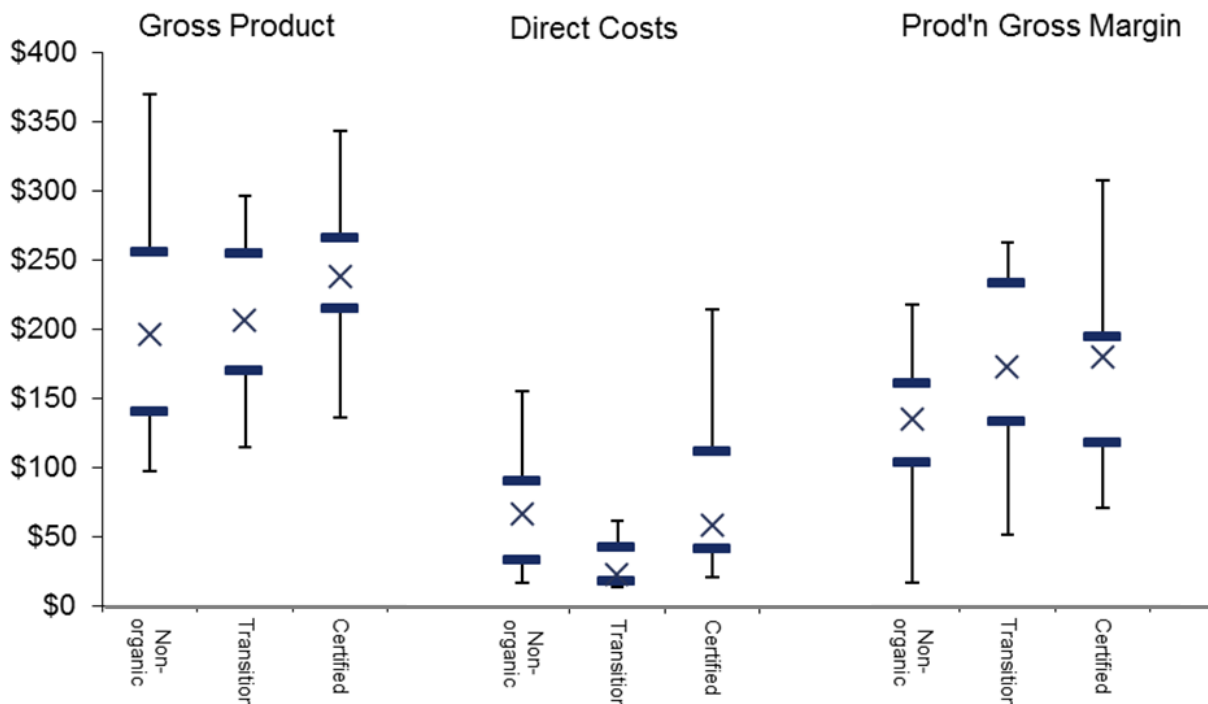


Figure 11. Production Gross Margin \$/LSU data for non-organic, transition and certified organic groups.

4.2.2 Economic Operating Margin (\$/kg)

Certified organic producers received a premium (highest median price per kilogram of beef sold) across the data set however; significantly higher costs of production pulled the certified organic economic margin below that of the transition businesses within this project. Productivity on per kilogram basis is a function of price received per kilogram, minus cost of production per kilogram. Cost of production is calculated by the addition of direct costs and overheads and excludes all finance costs. The wide range in cost of production across the three groups (including an outlier) is the main driver of the differences between economic margins.

Table 8. Economic Gross Margin \$/kg results for non-organic, transition and certified organic groups.

Status	Q1 (25 th percentile)	Median	Q3 (75 th percentile)
Meat Price Received (\$/kg)	Non-Organic	\$1.40	\$1.72
	Transition	\$1.50	\$1.65
	Certified	\$1.91	\$2.38
Cost of Production (\$/kg)	Non-Organic	\$1.15	\$1.89
	Transition	\$0.48	\$1.51
	Certified	\$1.36	\$2.01
Economic Operating Margin (\$/kg)	Non-Organic	-\$0.49	\$0.44
	Transition	\$0.11	\$1.07
	Certified	\$0.21	\$0.81

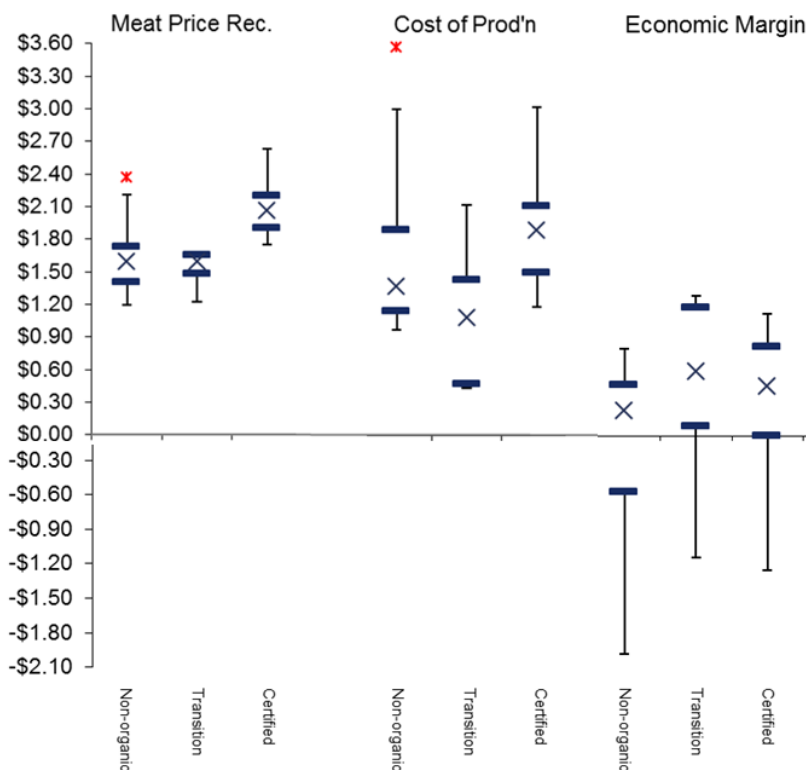


Figure 12. Economic Gross Margin \$/kg data for non-organic, transition and certified organic groups.

4.2.3 Effect of Price Received vs. Cost of Production

Data shows a direct link between cost of production and ROA. The lower the cost of production across all groups, the higher the subsequent ROA. Profit Probe™ data for the past two decades has repeatedly shown this result. Despite this, many sectors of the industry still focus on price received as the primary goal. Even for this small data set, the graphs below show the clear relationship between cost of production (COP) and ROA and the lack of correlation between price received and ROA. The R² score measures how well the observed outcomes are replicated by the model as the proportion of total variation of outcomes explained by the model. ROA vs. Price Received has an R² score of 0.01 indicating that there is no strong correlation between the variables based on the observed outcomes. In comparison, ROA vs. COP has a very high R² score of 0.73 reiterating the fact that COP has a major influence on ROA based on the data observed in this project.

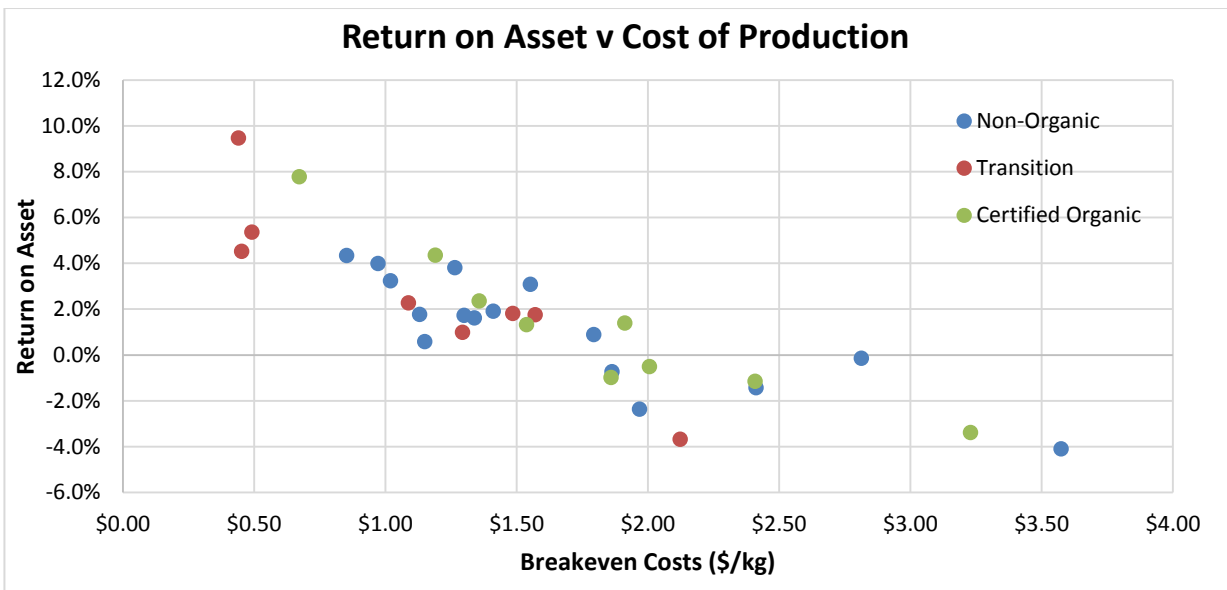


Figure 13. Return on Asset (%) v Cost of Production (\$/kg)

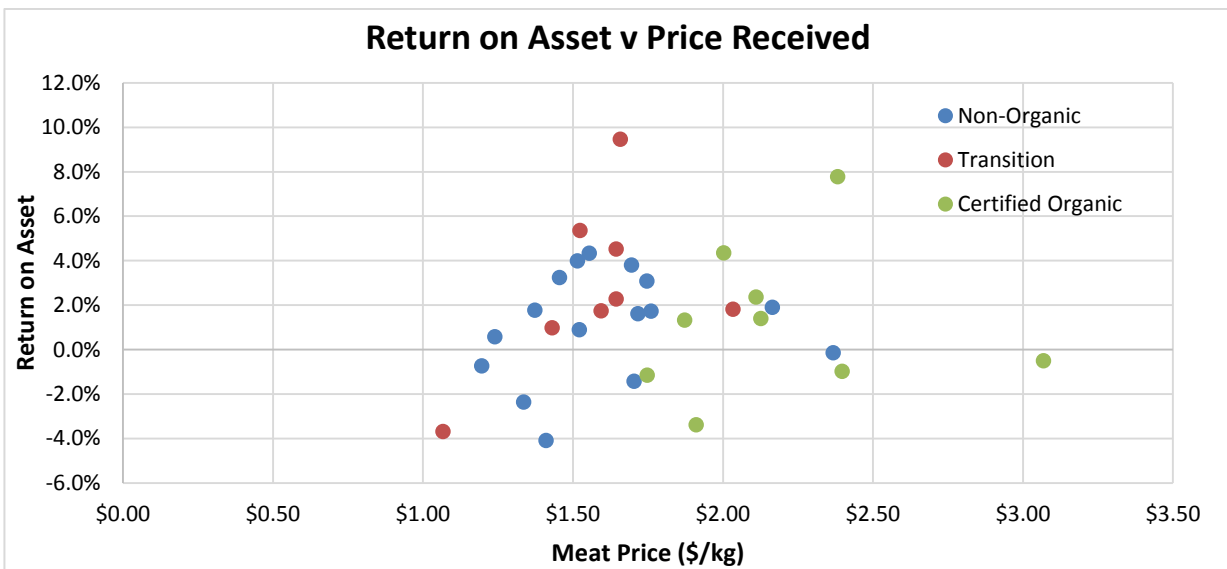


Figure 14. Return on Asset (%) v Price Received (\$/kg)

4.2.4 Scale

Scale has proven to be an overriding determinant of profitability and this is primarily due to ever increasing overheads. The data below is a scatter diagram of LSU managed compared to overheads per LSU for all three groups. This graph highlights the inverse relationship between scale (average LSU managed) and overheads per LSU. For this particular graph the outliers have been included to demonstrate the effect scale has on overhead costs per LSU. The outlier in the transition group, with a scale of over 38,000 LSU managed, clearly has an advantage with regard to diluting overhead costs across the herd. If this outlier was to be removed from the transition sample group the trendline would more closely resemble that of the other two groups. It should be noted that the coefficient of determination (R^2) for all three trend lines is below 50%. This indicates that in this project there is not a particularly strong correlation between overheads/LSU and average LSU managed. This may be a result of the limited sample size and the variance between operations within each group.

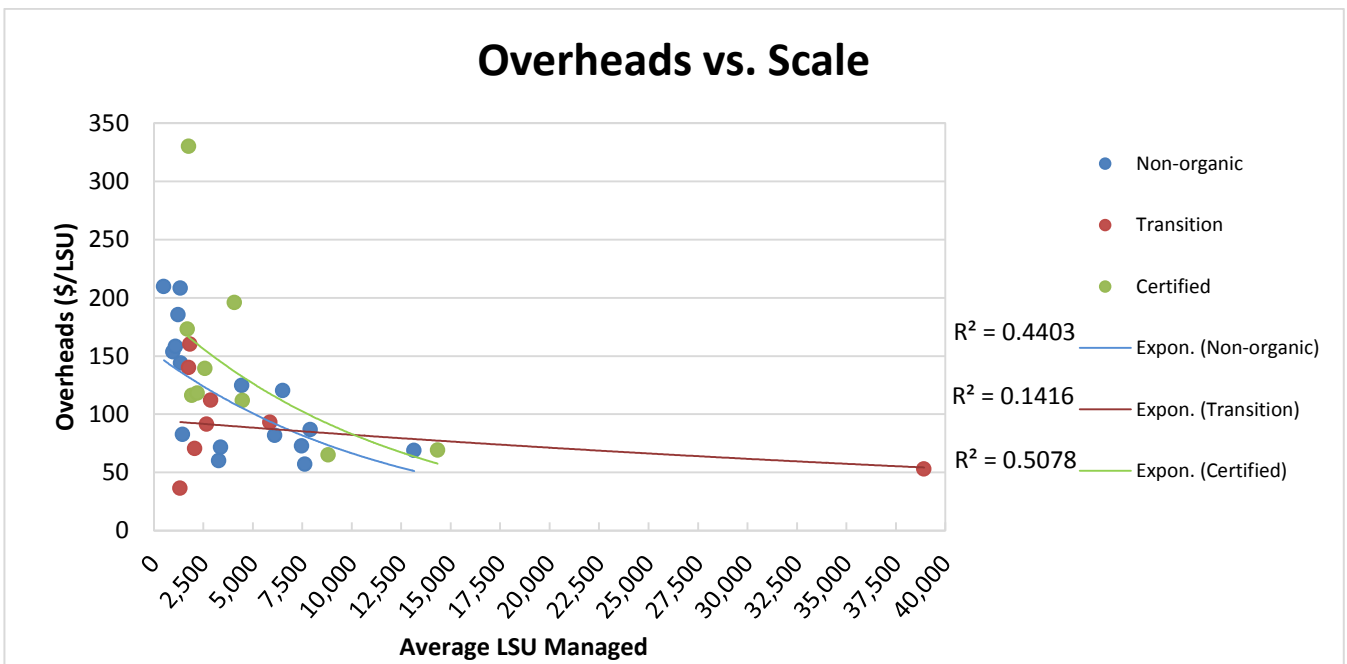


Figure 15. Overheads per LSU against LSU managed data for non-organic, transition and certified organic groups.

4.2.5 People

Labour effectiveness can be measured by the number of LSU managed per full time equivalent (FTE) and by the gross product generated per FTE. Based on median and upper quartile results, both these measures indicate that transition businesses are more efficient at utilising labour resources according to this data set. Certified organic businesses had the tightest range of results, however managed the lowest number of LSU/FTE and generated the lowest gross product /FTE despite receiving the highest total economic gross product. These trends may be direct result of higher labour inputs and could also be correlated to a lack of economic scale.

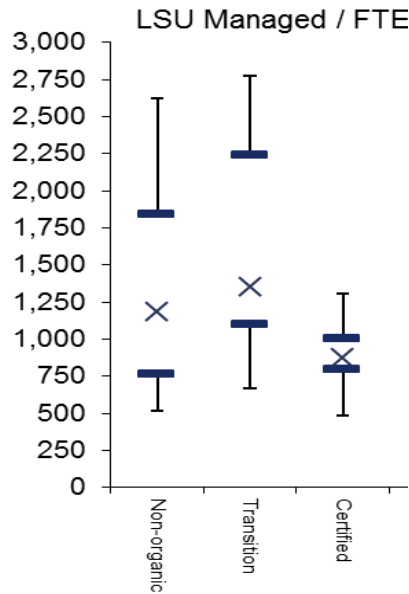


Figure 16. LSU Managed per FTE data for non-organic, transition and certified organic groups.

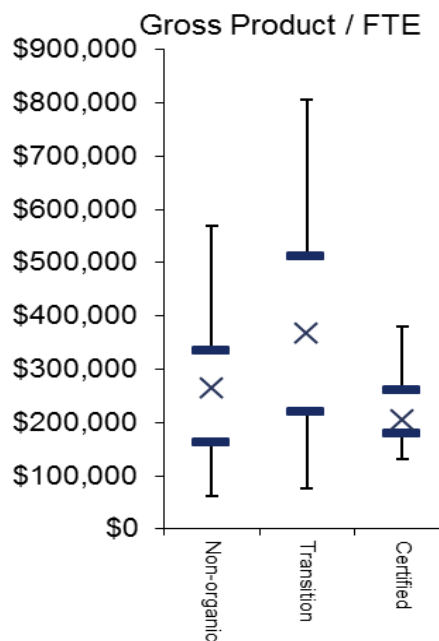


Figure 17. Gross Product per FTE data for non-organic, transition and certified organic groups.

5.0 Discussion

The Profit Probe™ program produces key metrics for comparison between status groups; non-organic, transition and certified organic. The relationships between these key metrics will be discussed below.

In this data set transition businesses returned the highest ROA. The primary reason behind this result can be attributed to the ability of these particular businesses to control their cost of production. Transition businesses had production costs 64% lower than certified organic businesses. This result improves gross margins and subsequently improves earnings before interest and tax (EBIT). Overhead costs also impact upon EBIT. In this project there was approximately 5% variation between the groups (highest vs. lowest) with regard to the overhead ratio. Even though producers have less control over overhead costs, these costs still impact upon both the expense ratio and ROA. This relationship emphasises that the ability of a producer to control cost of production has had the biggest impact on profitability throughout this project. The significant fall in land prices are an external influence that has greatly impacted upon ROA during this period. As land prices are beyond the control of the producer their effect will not be a focus throughout this section but will be touched on in section 5.1.3.

Beef producers have limited control over prices received for their product, however the results clearly demonstrate that certified organic producers receive a meat price premium approximately 25% greater than that of non-organic and transition producers (as per median results). In addition, certified organic businesses achieved the highest asset turnover ratio. This result can also be attributed directly to the premiums received for certified organic beef. As these results are based on 12 months of sales data and take in to consideration the fluctuations in meat prices, they demonstrate the benefit non-organic and transition businesses may receive if they were to convert to certified organic.

There is no significant difference between the non-organic, transition and certified organic groups when comparing the meat produced (kg) per LSU over the analysis period. Animals in transition operations averaged 113kg gain per year in comparison to non-organic and organic animals which gained an average of 105kg gain per year. This result highlights that although certified organic producers are limited by the supplements they can use, total production per year (kg) has not been compromised. However, certified organic businesses had the highest cost of production which may be a direct result of using expensive urea substitutes to maintain a comparable production gain. The effect that land type may have on meat produced (kg) per LSU per year has not been analysed in this project due to the small sample size and relatively even distribution of operations throughout the land types.

5.1 External influences on profitability

5.1.1 Markets

Declining seasonal conditions combined with falling land prices and the shock ban on live cattle exports has made producers look at options that will enable them to continue trading on a profitable basis.

Producers in northern Australia traditionally look to supply the live export trade shipping out of northern ports with their young cattle while most older stock are destined for slaughter and the manufacturing market. Those producers further south will look to supply feedlots and abattoirs in

central and south eastern Queensland. Older livestock from these properties are trucked to works situated along the eastern seaboard.

Certified organics offers another string to the bow for these producers. While being certified organic places restrictions on the types of inputs and adds some additional certification costs there are significant premiums available for producers willing to follow these tighter production requirements. With the exception of bulls, all classes of stock are acceptable and the grid is wide after meeting the weight threshold and there are limited penalties on fat cover.

5.1.2 Seasonal Conditions

Seasonal variation has had a large impact on the results of this project, within groups and indeed between groups in terms of cost of production in relation to additional supplements, agistment or freight required to maintain and assist livestock performance under adverse conditions.

Declining seasonal conditions combined with the live export ban caused acceleration in drought conditions across much of northern Australia while producers waited in the vain hope of a short term solution. Rainfall has been below average across Queensland for seven of the last 10 years and cost of production (which is inversely related to rainfall) has consequently risen. 2010-11 had been an above average year and the majority of producers were stocked to capacity. This was followed by a number of below average rainfall years.

5.1.3 Land Values

Land values increased 450% across north Queensland and the Northern Territory from 1999 to 2008. Properties were purchased and leveraged according to these increased land values. Since 2009 there has been a significant fall in rural real estate values. This fall in land values has had a serious impact on the finance ratio for those businesses that chose to expand their operations. Since 2008 rural land values relative to this data set have declined between 20-50% depending on location and seasonal effect. The roll on effect of the live export ban meant that stock scheduled for boats were diverted to other markets. This combined with the need for producers to offload stock due to poor seasonal conditions adding further financial stress to the majority of livestock businesses.

6.0 Conclusions

The findings of this report illustrate a range of profitability and variability between non-organic, transition and certified organic businesses. The businesses compared in this report are situated in central and western Queensland. There is a range of profitability within the three groups compared and this range reflects the reality of the industry. The findings of this project suggest that this variability is a result of cost of production, scale, access to market and seasonal conditions.

Regardless of scale or market destination, those producers that were able to control cost of production achieved sound economic returns. Larger beef businesses have an added opportunity to further leverage premiums available for certified organic beef and to increase the margin between average meat price received and cost of production.

Analysis of the data in this project shows there is an opportunity for non-organic and transition businesses to optimise business profitability by becoming certified organic and leveraging the premium on offer, however there are a number of caveats that need to be followed to ensure delivery of the desired results.

Although the median range is narrow, the transition group of businesses performed best in ROA across the range of quartiles as a direct result of cost control. One large, very well managed transition business was a statistical outlier in terms of cost control and also has the added advantage of economy of scale. For this very reason, box and whisker plots were used to identify such outliers as well as median results in order to provide a meaningful report. This outlier demonstrates that if transition businesses are able to maintain tight control of costs and capitalise on the organic premiums available post certification they will be capable of outstanding returns.

Within the beef industry there is an assumption that expenses will be higher for a certified organic business compared to businesses supplying traditional markets due to high input costs and costs associated with certification requirements. The gross margin analysis highlights the fact that the organic premium on offer during the 2013/14 financial year somewhat compensated for the high cost of production within organic businesses.

6.1 Primary Conclusions

- A change in attitude is required by producers from that of cattlemen to business managers. Producers need to be fully aware of their businesses' economic performance and the need to maximise profit by way of first controlling costs and then leveraging premium opportunities.
- Producers in regions with already low inputs and the ability to control cost of production have an opportunity to access another supply chain and to widen their market options by becoming certificated organic.
- Larger scale operations have an advantage when it comes to cost control by way of economy of scale and their ability to dilute overhead costs in particular.
- Many producers have survived to date on additional borrowings against their asset base. Declining land values have had a dampening effect on this practise.

- Organic certification does provide price premiums to beef producers. The net effect of these premiums will vary according to geography, season, management strategies and the ability to control costs.
- This project highlights the fact that there is very little correlation between price received and ROA but a very strong correlation between ROA and cost of production.
- Converting from non-organic to certified organic beef production will be easier and more cost effective for producers using few non-organic inputs eg. Urea based supplements and chemicals. Controlling and reducing cost of production (direct costs and overheads) should be a focus for all producers who wish to convert to organics.
- Producers that manage sound businesses by using economic analysis tools, maintaining tight control over livestock programs and challenging costs have the opportunity to capitalise on the supplying certified organic beef to receive the premiums.
- Organic certification is not a silver bullet for businesses that are not performing well. In order to capitalise on the opportunities that organic certification presents, sound business management strategies like cost control need to be in place prior to transition.

7.0 Appendix

7.1 Appendix One

Project: Profit Probe Benchmarking

Property: Sample Cattle

Period: Jul08-Jun09

		Flow Of Funds		
Property Area	24,000 ha			
+ Avg Lease Area	-500 ha			
- Land Not Available	0 ha			
Avg Available Area	23,500 ha			
		Opening (Jul08)	Closing (Jun09)	Value / ha
1. Balance Sheet				
Land		\$2,450,000	\$2,462,250	\$102.59
Livestock Inventory		\$1,571,385	\$1,608,920	\$67.04
Other Production Assets		\$19,778	\$124,569	\$5.19
Plant & Equipment		\$236,055	\$370,939	\$15.46
Other Current Assets + Super		\$388,637	\$447,056	\$18.63
Non-Farm		\$614,005	\$625,445	\$26.06
A. TOTAL ASSETS		\$5,279,860	\$5,639,179	\$234.97
Short Term Loans		\$9,794	\$0	\$0.00
Long Term Loans		\$200,000	\$200,000	\$8.33
Non Farm		\$0	\$0	\$0.00
Leases and Other Loans		\$29,517	\$0	\$0.00
B. TOTAL LIABILITIES		\$239,311	\$200,000	\$8.33
NET WORTH (A-B)		\$5,040,549	\$5,439,179	\$226.63
EQUITY RATIO		95%	96%	

	Based on Cash	Based on Gross Product
2. Net Flows		
Gross Product		
Cattle Income	\$389,765	\$389,765
+ Other Production Income	\$0	\$0
+ Closing Inventory	N/A	\$1,608,920
a. Gross Income	\$389,765	\$1,998,685
Purchases	\$98,494	\$98,494
+ Opening Inventory	N/A	\$1,571,385
b. Cost Of Sale	\$98,494	\$1,669,879
PRODUCTION GROSS PRODUCT (a-b)	\$291,271	\$328,806
+ Other (Non-Production) Income	\$23,703	\$23,703
C. TOTAL GROSS PRODUCT	\$314,974	\$352,509
Expenses		
Direct Costs		
Freight and Selling	\$52,412	\$52,412
Supplements & Fodder	\$31,882	\$31,882
Labour	\$3,600	\$3,600
Animal Health	\$2,385	\$2,385
Unpaid Labour	\$0	\$10,500
Other	\$0	\$0
a. Total Direct Costs	\$90,279	\$100,779
Overheads		
Administration	\$33,159	\$33,159
Buildings & Plant	\$29,550	\$29,550
Land	\$11,031	\$11,031
Land Maintenance	\$1,152	\$1,152
Labour	\$10,014	\$10,014
Other	\$0	\$0
Unpaid Labour	\$0	\$89,500
Drawings, Stores & Rations and Other	\$51,852	\$0
Depreciation	\$0	\$23,958
b. Total Overheads	\$136,758	\$198,364
c. Land leases (rent) payment	\$6,520	\$6,520
D. TOTAL EXPENSES (a+b+c)	\$233,557	\$305,663
E. CASH FLOW OR EBIT (C-D)	\$81,417	\$46,846
Interest and other leases	\$15,176	\$15,176
BUSINESS PROFIT (E - interest and leases)	\$66,241	\$31,670
Other Financial Information		
Non-farm income		\$76,849
Subsidies received		\$0
Taxation paid		\$4,105
Capital expenditure (incl. principle on loans) & property developmen		\$404,277
Sale of capital items		\$88,113

Project: Profit Probe Benchmarking

Property: Sample Cattle

Period: Jul08-Jun09

Key Performance Indicators

Analysis Group:	RCS Main Database
Number in Group:	75

Measure	Ranking in Group	Jul08 - Jun09	3-Year Avg	Top 20% Avg	Group Avg	Benchmark
(1) Profitability (economics)						
ROA (%)	45 of 75	0.9	-	7.8	1.9	6.5
Land ROA (%)	63 of 69	0.9	-	4.5	4.5	5.2
Production ROA (%)	18 of 75	1.0	-	14.2	-10.6	14.4
EBIT (\$/ha)	50 of 75	2.0	-	32.8	12.6	20.2
Asset Turnover Ratio (%)	30 of 75	7.0	-	19.4	8.8	15.9
Gross Margin Ratio (%)	52 of 75	32	-	54	39	54
Overhead Ratio (%)	51 of 75	58	-	29	52	30
(2) Productivity						
Cattle - Meat						
Meat Produced (kg/ha)	57 of 72	11.3	-	37.0	36.0	42.0
Break Even Costs (\$/kg)	25 of 71	1.13	-	0.92	1.16	0.93
Meat Price (\$/kg)	67 of 70	1.32	-	1.67	1.57	1.64
Meat Costs (\$/LSU)	7 of 72	94	-	133	138	105
Meat Gross Margin (\$/ha)	57 of 72	3.4	-	23.0	12.8	15.0
(3) People						
Gross Product (\$/FTE)	52 of 75	167,529	-	338,101	241,535	365,550
LSU Managed / FTE	20 of 73	1,511	-	838	1,025	1,331
Training (days/FTE)	22 of 75	14.5	-	11.3	8.6	9.5
Holidays (days/FTE)	34 of 75	14.5	-	16.3	15.9	17.6
(4) Pecuniary (finance)						
Finance Ratio (%)	15 of 75	4	-	16	22	15
Expense Ratio (%)	34 of 75	91	-	71	107	69
(5) Property						
LSUdays/ha/100mm rain	64 of 71	4	-	23	16	24
Ecological State Index (0=poor,100=good)	24 of 75	58	-	47	52	46
Ecological Trend Index (<0=declining,>0=im	66 of 75	-0.50	-	3.63	4.41	2.87
Average LSU Managed	14 of 75	3,180	-	1,861	2,215	2,928
Energy Costs (\$/ '000\$ income)	18 of 75	7.88	-	35.67	21.79	24.83

Project: Profit Probe Benchmarking

Property: Sample Cattle

Period: Jul08-Jun09

Gross Margin and Turnover for Cattle (Meat)

Farm Area (ha):	23,500	as % of Gross Product:	93.28%
Effective Area (ha):	23,500	Cattle Meat Weight Produced (kg):	264,394
Animals (LSU):	3,180		

Measure	Your Business Results			Group Results \$/kg		Group Results \$/LSU	
	\$	\$/kg	\$/LSU	Top 20%	Average	Top 20%	Average
GROSS PRODUCT - GP	328,806	1.24	103.40	1.62	1.60	236.35	189.66
This is made up of...							
Animal Sales Income	384,669	1.45	120.97	1.87	2.14	271.93	254.37
+ Milk Sales Income	0	0.00	0.00	0.00	0.00	0.00	0.00
+ Wool/Fibre Sales Income	0	0.00	0.00	0.00	0.00	0.00	0.00
+ Change in Livestock Inventory	37,535						
+ Agistment Income	5,096						
- Animal Purchases	98,494						
Direct Cost Summary							
Labour	14,100	0.05	4.43	0.09	0.12	13.61	14.44
Supplements & Fodder	31,882	0.12	10.03	0.05	0.10	7.95	12.16
Animal Health	2,385	0.01	0.75	0.03	0.05	4.79	5.89
Other	0	0.00	0.00	0.00	0.00	0.20	0.28
Crop Transfers & Feed	0	0.00	0.00	0.04	0.02	5.63	2.18
Agistment	0	0.00	0.00	0.05	0.04	7.49	4.84
TOTAL PRODUCTION COSTS - PC	48,367	0.18	15.21	0.27	0.34	39.67	39.79
Freight and Selling	52,412	0.20	16.48	0.12	0.16	17.09	19.08
Contract labour	0	0.00	0.00	0.00	0.00	0.00	0.01
Other	0	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL POST PRODUCTION COSTS	52,412	0.20	16.48	0.12	0.16	17.09	19.09
TOTAL DIRECT COSTS - DC	100,779	0.38	31.69	0.39	0.50	56.75	58.89
OPPORTUNITY COST - OC	123,068	0.47	38.70	0.35	0.42	51.52	49.95
DEPRECIATION - DP	23,958	0.09	7.53	0.05	0.08	7.85	9.90
Gross Margins							
Production GM: GP - DC	228,027	0.86	71.71	1.23	1.10	179.60	130.78
Economic GM: GP - (DC + OC + DP)	81,001	0.31	25.47	0.83	0.60	120.23	70.93
COST OF PRODUCTION							
Feed, Pasture, Agistment, Crops (feed)	31,882	0.12	10.03	0.14	0.16	21.06	19.18
+ Other Direct Costs	68,897	0.26	21.67	0.25	0.33	35.69	39.70
+ Overheads	198,364	0.75	62.38	0.53	0.67	76.68	79.30
= Total Expenses (excl fin., tax, dev.)	299,143	1.13	94.07	0.92	1.16	133.43	138.18
= Break Even Costs (excl fin., tax, dev.)	299,143	1.13	94.07	0.92	1.16	133.43	138.18
Total Expenses (excl fin., tax, dev., feed)	267,261	1.01	84.04	0.77	1.00	112.37	119.00
PROFIT DRIVERS (Meat)	You			Top 20%	Average		
Meat Value (\$/LSU)	121			272	254		
Meat Productivity (kg/LSU)	83			145	119		
Meat Production rate (kg/ha)	11			37	36		
Weaned Weight (kg)/breeder joined	85			159	245		
Average Sale Price (\$/head)	508			655	662		
Branding Rate (%)	42			75	68		
Reproductive Index (%)	37			58	55		
Mating Ratio (%)	2.2			2.0	3.0		
Death Rate (%)	2.2			1.0	1.0		
Liabilities (\$/LSU)	69			863	676		

Project: Profit Probe Benchmarking

Property: Sample Cattle

Period: Jul08-Jun09

Overhead Diagnostic

Overhead Ratios				Your Ratio	Top 20%	Avg	BM		
Overhead Ratio (%)				58.12	29.1	52.1	30.1		
Plant Income Ratio (%)				86.10	36.70	71.30	36.63		
Overhead Categories				Your \$	Your \$/ha	%GP	Top 20% %GP	Avg %GP	BM %GP
Cash Overheads (excluding property development)...									
Buildings & Plant				29,550	1.26	8.38	6.10	9.81	6.74
Labour				10,014	0.43	2.84	3.62	7.02	4.66
Administration				33,159	1.41	9.41	5.72	6.65	5.57
Land				11,031	0.47	3.13	0.74	1.94	0.94
Land Maintenance				1,152	0.05	0.33	0.37	0.82	0.58
Total Cash Overheads (excl: prop. dev., land leases)				84,906	3.61	24.09	16.55	26.24	18.49
Land Leasing Rent				6,520	0.28	1.85	0.32	1.69	0.31
Total Cash Overheads (excl. property dev.)				91,426	3.89	25.94	16.87	27.94	18.80
Depreciation				23,958	1.02	6.80	3.42	5.28	3.21
Unpaid Labour				89,500	3.81	25.39	4.10	5.56	3.91
Total Overheads (excl. property dev.)				204,884	8.72	58.12	24.39	38.77	25.91
Property Development				0	0.00	0.00	0.19	0.95	0.46
Note: Property dev. appears in Capital Expenditure at bottom of Flow of Funds page									

Overhead Items	Your \$	Your \$/ha	%GP
Administration: Accomodation and travel	7,905	0.34	2.24
Administration: Insurance	4,438	0.19	1.26
Administration: Telephone and fax	4,350	0.19	1.23
Administration: Consultants	4,200	0.18	1.19
Administration: Electricity and gas	4,064	0.17	1.15
Administration: Accountant & professional fee	3,100	0.13	0.88
Administration: Freight - general	1,800	0.08	0.51
Administration: General	1,076	0.05	0.31
Administration: bank charges	990	0.04	0.28
Administration: Printing, postage & stationery	518	0.02	0.15
Administration: Legal fees	364	0.02	0.10
Administration: Licences and permits	327	0.01	0.09
Administration: Journals/subscriptions and donations	27	0.00	0.01
Buildings & Plant: Fuel & Oil	15,937	0.68	4.52
Buildings & Plant: Motor Vehicle Expenses	8,155	0.35	2.31
Buildings & Plant: R & M - Buildings and structures	2,986	0.13	0.85
Buildings & Plant: R & M - Plant & Equip	1,256	0.05	0.36
Buildings & Plant: R & M - water	808	0.03	0.23
Buildings & Plant: R & M - Other	408	0.02	0.12
Labour: Training	8,255	0.35	2.34
Labour: Other labour expenses	1,500	0.06	0.43
Labour: Workers compensation	259	0.01	0.07
Land: Rates & Rent	11,031	0.47	3.13
Land Maintenance: Weed/Regrowth control and bladepl	1,152	0.05	0.33
Unpaid Labour: General	89,500	3.81	25.39

Addendum to

Organic Beef Production in Northern Australia

Analysis of Business Performance for Non- Organic, Transition and Certified Organic Businesses in the 2013/14 Financial Year

Prepared by

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July 2015



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As this is an analysis of only one financial year and limited numbers of businesses per group, all quotes and references made to this report must be made with reference to the whole report. RCS shall not be responsible in any way whatsoever to any person who relies in whole or in part on the contents of this report.

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1.0 Background

This addendum to the primary Organic Beef Production in Northern Australia – Final Report submitted on 29th May 2015 has been requested by Meat and Livestock Australia (MLA) and Australian Organic Meats (AOM). MLA and AOM required additional information and clarification of points raised in the Final report. The Organic Beef Production in Northern Australia – Final Report was partially funded by Meat and Livestock Australia.

2.0 Outline of Project Activities

The original project plan was to benchmark 12 businesses in each of the three target groups (non-organic, transition to organic and certified organic) for the 2013/14 financial year.

At the commencement of the project, Australian Organic Meats (AOM) supplied a list of Certified Organic businesses and businesses in transition to organic certification. Resource Consulting Services (RCS) supplemented this list of potential participants from its' ProfitProbe data base. All of these businesses were approached to participate in the project. Unfortunately a large proportion of this target audience were either not interested in participating and those interested were not able to supply accurate production or financial information.

As a consequence RCS then cast a wider net in an effort to draw out additional numbers of suitable participants with quality data. This included:

- Announcements were made at RCS Keep in Touch field days across a wide range of territory and time frames.
- Other organic groups were approached to provide eligible candidates.
- Eligible participants at training courses were approached.
- RCS newsletters and social media posts included articles outlining the project and opportunities available to producers through participation.
- For those businesses interested in participating but lacking the necessary skills there was an offer of on-farm visits and assistance with data input to ensure accuracy of information supplied.
- Regular phone and email contact with eligible participants to encourage participation and address any concerns or queries.

Unfortunately the end result was a lower than expected number of businesses that met the criteria in terms of accuracy of information and participation for the certified organic and organic transition groups. To boost the robustness of data, all eligible businesses in the non-organic group were used.

Query No.1. Number of Businesses.

Query: Explain why 17 non organic businesses were chosen when the original design was 12:12:12 – Why were the initial project objectives not adhered to?

The goal was to maximise the number of businesses per group. While the 12:12:12 original design was not achieved we were not in the fortunate position of being able to select candidates on a tight set of criteria.

As outlined above, all possible efforts were made to recruit participants for the project.

RCS staff travelled 4,400 km to complete input sheets with clients on farm who would have otherwise not participated without the face to face assistance. This effort and assistance made it possible to attract another 9 businesses. The time and travel was covered by RCS as it was over and above the contract budget.

Query No. 2. How participants were chosen.

Query: Explain how participating businesses were chosen. State where these businesses are located with respect the tick line, rainfall and the need for annual supplementation.

The primary filters for selection criteria were that all businesses were to be located in Northern Australia and have > 75% Gross Product earned from beef production. All potential participants supplied by Australian Organic Meats (AOM) were approached along with eligible clients from the RCS database. There was limited interest in participating in the project. The offer to assist with preparation and presentation of the required information enticed a number of businesses to participate. The luxury of selecting businesses in respect to the tick line, rainfall and supplementation was not available.

Supplements are used across large areas of central and northern Queensland to assist cattle to more effectively convert grass into production. Whilst some regions use supplements more than others (e.g. gulf country v central Queensland) the seasonal conditions also significantly influence the amount of supplement used.

Query No. 3. What Key Performance Indicators should readers focus on?

Query: With regard to the Profit Probe Key Performance Indicators (KPIs), specify the main economic indicators readers should focus on in this report.

The participants received detailed business management reports that included a wide range of KPIs. In the public report RCS focussed on the primary KPIs that would give readers the best overall picture of the comparison. Taking this into account, the primary KPIs have already been filtered. It is suggested readers take all the selected KPIs in the report into account when interpreting the data. Furthermore, the reader could consider the following information. If comparing to their own data, it recommended the reader consider professional advice for full understanding.

Returns on Assets (ROA) is the most universal means to interpret profit.

Additionally there are three key components to increasing ROA, referred to as the RCS Three Secrets of Profit:

- Reduce Overheads.
- Increase Turnover.
- Increase Gross Margin.

Overhead ratio is total business overhead costs divided by gross product. The overhead ratio defines the amount of gross product or income consumed by servicing overheads or fixed costs.

Asset turnover is a function of gross product divided by closing agricultural assets. Improving turnover increases the enterprises' ability to contribute to overheads

Gross margin is a function of gross product less direct costs and indicates the margin between income and expenditure directly related to production. Gross margin is a financial measure of the efficiency of the business.

Query No. 4. Limitations of Profit Probe program

Query: Outline the limitations of the Profit Probe program and analysis methodology and any limitations that may be encountered with regard to the 5 year business analysis and benchmarking program.

Section 3.2 of the initial report refers to any limitations of the data in full detail.

To date RCS has not been invited to carry out further analysis or benchmarking by Australia Organic Meats or Meat and Livestock Australia.

The original proposal made mention of a five year program which was subsequently changed to analysis of multiple businesses in the 2013/14 financial year.

Query No. 5. Limitations of benchmarking data sets

Query: Discuss the limitations of the benchmarking data and include duration of study, sample size, selection of businesses and variation in seasonal conditions between businesses.

Section 3.2 of the initial report refers to any limitations of the data in full detail.

We would have relished the privilege of being able to select businesses to analyse based on secondary criteria such as location, scale etc. At RCS we feel as though every possible effort was made to recruit businesses to the program (above the scope of the project budget). Given the on-ground reality of the situation we are very happy with the outcome of the report, the validity of its' content and the limitations.

Regarding the seasonal conditions between businesses, Queensland has been experiencing a worsening drought since late 2011 as referred to in Section 2 of the original report. Section 2 also contains two rainfall maps outlining the dramatic change in seasonal circumstances. Seasonal conditions have impacted on beef businesses through the necessary early turnoff of livestock, ability to supply markets and closer to home through additional direct costs in addition to the suppressed markets and personal stress. All of the businesses participating in this project were subject to low rolling average rainfall figures.

The KPIs included in the report were selected taking into account the variability of the dataset. That is they were macro level figures presented using box and whisker display formats to allow readers to assess the actual variation within the groups and see where the similarities and differences actually occurred.

Query No. 6. Provide EBIT/LSU data to add into the original report.

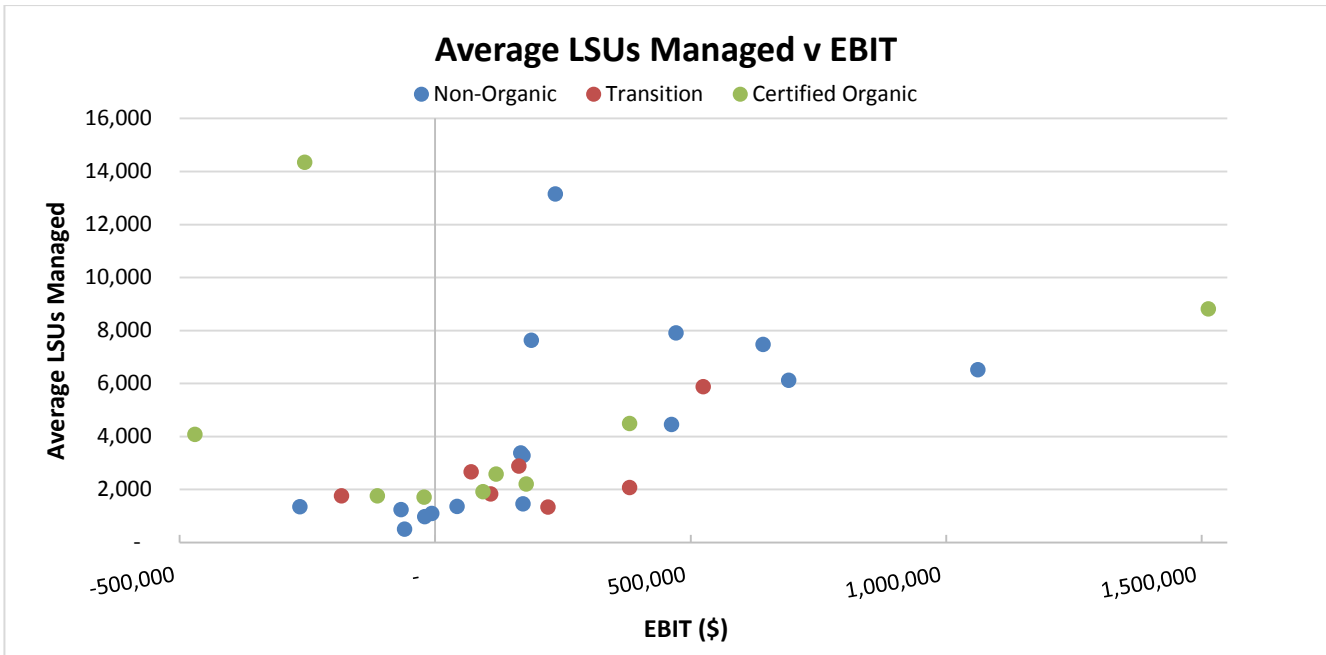


Figure 1. Average LSUs Managed v EBIT

As seen in Figure 1 there is a concentration of businesses of similar scale around the breakeven EBIT (Earnings before Interest and Tax) line. Those businesses that are able to keep a cap on expenses, in particular overheads are the ones in positive EBIT territory. Scale or increased turnover adds further opportunity to increase profits through the ability to spread overhead costs over a greater number of production units, thus increasing EBIT. One outlier business is not included in figure 1; this business had the benefit of outstanding cost control as well as significant scale. As a result of this combination of management factors this business was off the x (horizontal) axis.

Query No. 7. Negative ROA and positive gross margin.

Query: Clarify why there are 4 out of 9 certified businesses with a negative Return on Asset (ROA) yet they all have a positive Gross Margin – are their fixed costs much higher on these places?

Gross margin is calculated as follows:

$$\text{Gross Margin} = \text{Economic Gross Product} \text{ less } \text{Direct Costs}$$

Direct costs are those costs that are directly related to the number of cattle being run (primarily animal health, freight, selling costs and commission, MLA levy, supplements). The next category is overhead costs (repairs and maintenance, administration, labour, land costs). To allow meaningful business analysis and benchmarking, the financial information for business needs to be broken down into logical chunks. The next level after gross margin is EBIT which is calculated as follow:

$$\text{EBIT} = \text{Gross Margin} \text{ less } \text{Overhead Costs}$$

ROA is then able to be calculated as follows:

$$\text{ROA \%} = \frac{\text{EBIT}}{\text{Closing Agricultural Assets Managed}} \times 100$$

Taking this into account a business can have a positive gross margin, and have a negative ROA if the total of direct costs and overheads is greater than gross product generated. This could be due to one of three factors:

1. low gross product,
2. direct costs too high relative to gross product generated, or
3. overhead costs too high

All analysis groups have businesses that returned a negative ROA. The reasons for this result varied for different businesses. With regard to the query about overhead costs being higher for certified organic businesses the different businesses showed a range of costs bases for all groups as shown in following graph. The report contained detailed information regarding cost comparisons for the different groups.

The overhead costs per LSU managed were:

Group	Group Overheads per LSU	
	Average result	Top 20% result (based on ROA)
Certified Organic	\$106	\$70
Transition	\$60	\$40
Non-Organic	\$87	\$58

What does this tell us? It shows that management strategies, decision making and the overall business model has a bigger impact on cost basis than organic certification. The transition businesses above have the same limitations associated with management as the certified organic businesses and had the lowest overhead costs basis. We recommend readers refer to the original report for more depth of information.

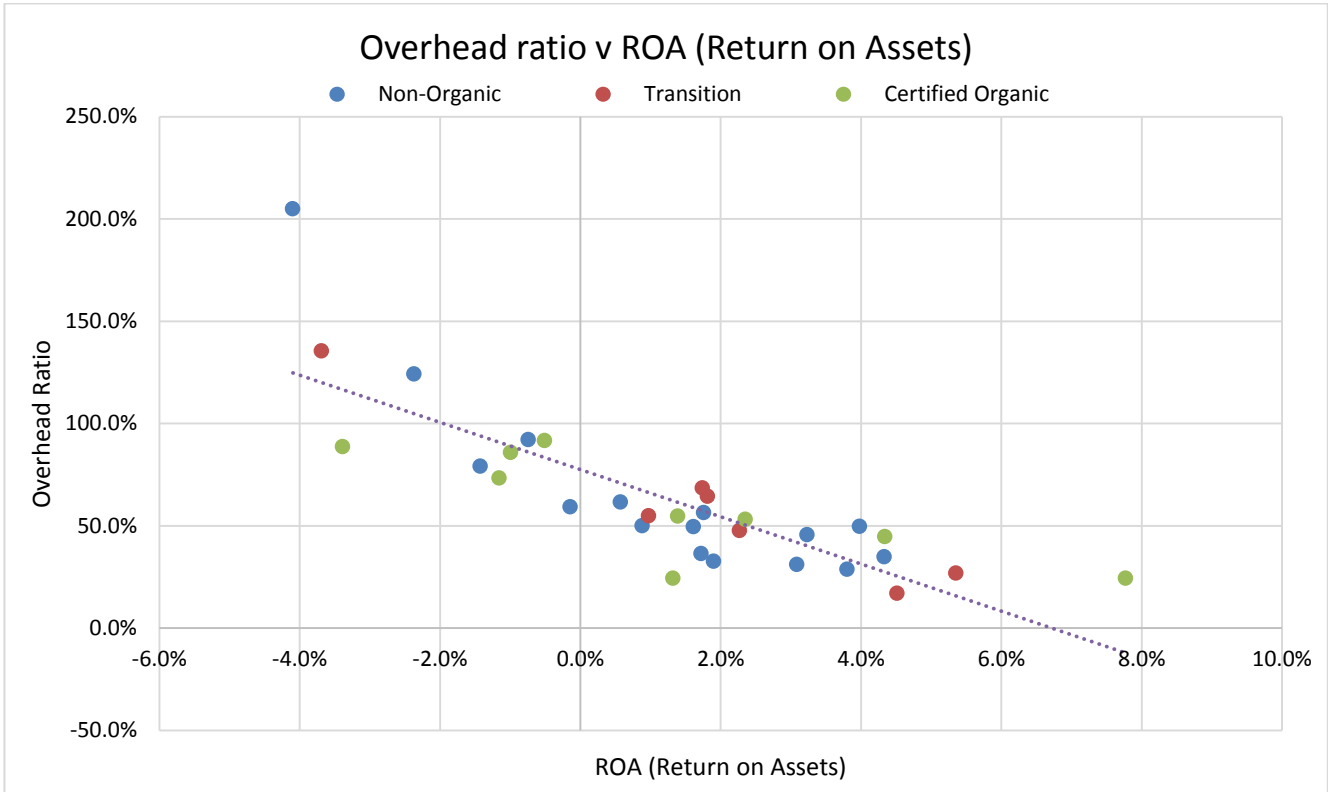


Figure 2. Overhead Ratio v ROA (Return on Assets)

Figure 2 highlights the fact that overhead ratio is a major driver of businesses not achieving a positive ROA. One of these businesses had an overhead ratio of greater than 200%. In other words overheads were twice the value of Gross Product (or sales plus closing inventory). ROA for this business was approximately -4%. At the other end of the scale another business achieved an 8% ROA with an overhead ratio of 30%.

Query No. 8. Location of businesses analysed

Query: Provide a map or locations of the properties with respect to the tick line and supplementation practices.

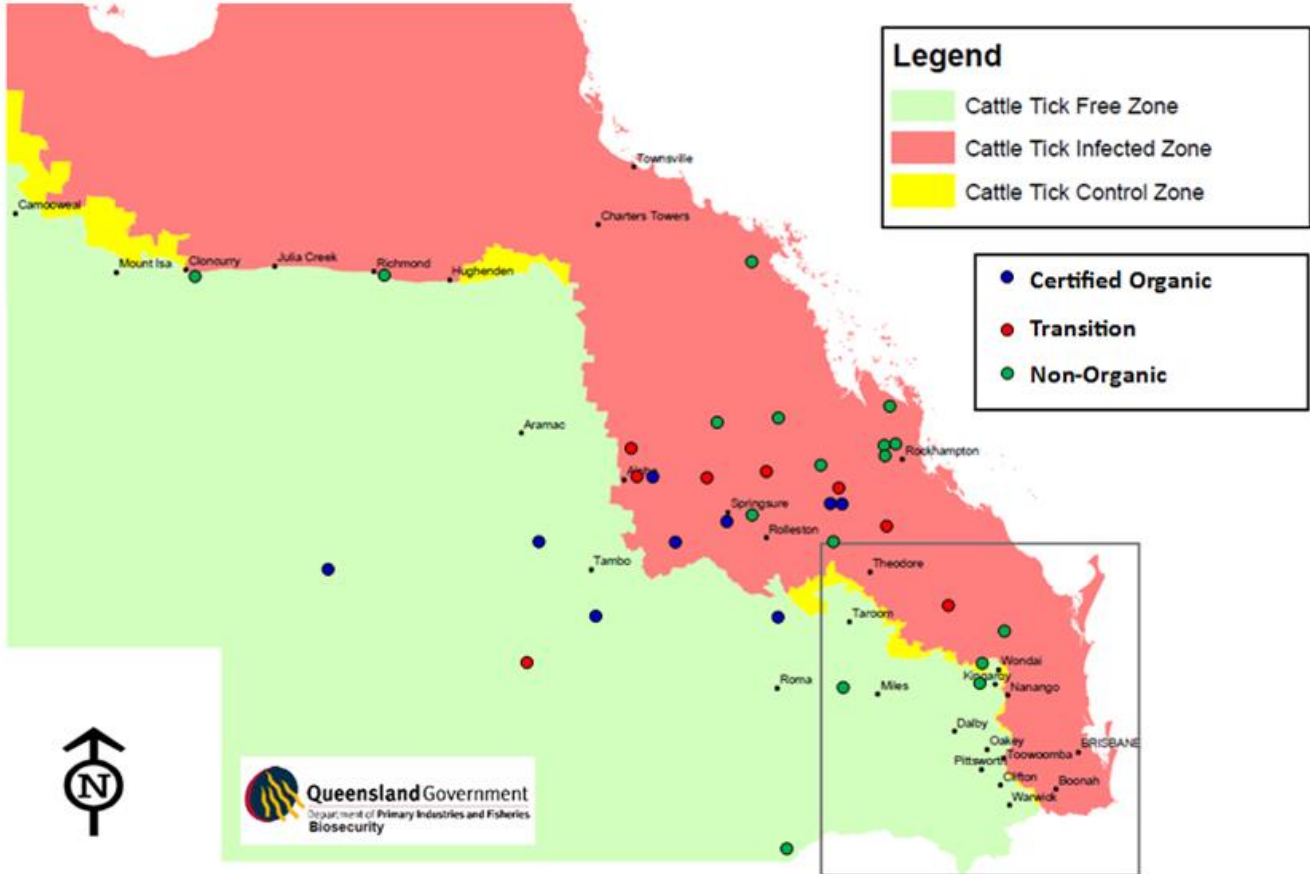


Figure 3. Project participants in relation to the tick line.

As illustrated in Figure 3 there is a predominance of participants inside the cattle tick infected zone and a reduced number in the tick free zone.

