Marketing Northern Australian Grass-fed Beef

Utilising and adapting current practices to meet consumer demands

A report for

By Fred Appleton

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Executive Summary

The objective of this study was to investigate the attributes beef consumers were looking for and identify how the industry can utilise current production methods to meet the current and future consumer demands. On a world setting, grass-fed beef industry of northern Australia is extremely unique in that a large portion of the grazing land still remains in its natural state, virtually untouched.

The study found that consumers, who seem to no longer have a farming or rural association, are wanting to reconnect to where their food comes from, and understand how it is produced, with the main attributes they look for being:

1. Origin and traceability.
2. Organics.
3. Animal welfare.
4. Environmental sustainability.
5. Meat quality.

This report highlights the significance the northern grass-fed beef industry plays in the Australia beef market, as it hosts more than 55% of Australia's national beef herd at around 13.9 million head (ABS, 2017; Meat & Livestock Australia Ltd, 2017).

As a major part of the Australian beef sector, the northern grass-fed industry needs to continue to meet consumer demands. In many instances this can be done relatively easily as the beef production in the natural and largely unspoiled environment, means that converting to organic accreditations, and utilising MSA grading systems, should be a relatively easy.

The industry should further utilise the MSA grading system and continue to introduce British and European breeds for better meat quality. It should also move toward polled genetics to increase animal welfare standards through a reduction in dehorning.

It is also strongly recommended that the industry focus on highlighting the simple production system and way of life in northern Australia to connect with consumers

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Foreword

I spent my childhood growing up on various cattle stations in central Queensland, then after completing school, which was done via both distance education and boarding school, I worked as a ringer (station hand), in northern and central parts of Queensland, before moving on to completing my commercial helicopter license. I worked with Webb Helicopters, and flying allowed me to work is various parts of Queensland, with majority of my time spent in the channel country, in South West Queensland, between Windorah, Bedourie and Birdsville, before returning to the central area, and starting up my own business.

I continued to operate my own commercial helicopter mustering business throughout central and northern parts of Queensland, before aligning in a partnership with other family members to form our current multi-generational, beef enterprise: Appleton Cattle Company.

From working across Queensland, and through my work within our own business, I believe it has given me a great understanding of the land types, stocking and pregnancy rates, and a good grounding of how the logistics of the northern beef industry operate.

Figure 1: The author, on his property in Queensland

Having spent my entire life in the beef industry, I am passionate about the product we produce. I believe that as an industry, we have not capitalised on the great story of Northern Australia and its beef production. Through my Nuffield travels to the United Kingdom (UK) and Ireland, Netherlands, USA, Canada, Mexico, Brazil and New Zealand, as a Nuffield Scholar supported by Rabobank, I have not seen a production system quite like it anywhere, with our low intensive grazing system, in what is many times a harsh environment, which still produces a quality grass-fed product.

Acknowledgments

I would like the sincerely thank Nuffield Australia and Rabobank for giving me the opportunity to undertake this study, for an industry that I am passionate about.

Thank you to all those that had to shoulder the load in my absence.

Finally, thank you to my wife, Anna, and daughters, Alexandria, Georgia, Harriet and Temperance, for your continued support and patience through this journey.

Abbreviations

AE	Adult Equivalent
BMP	Best Management Practices
GAP	Global Animal Partnership
GM	Genetically modified
GMO	Genetically Modified Organism
HGP	Hormonal Growth Promotant
MSA	Meat Standards Australia
RSPCA	Royal Society for the Prevention of Cruelty to Animals
UK	United Kingdom
USA	United States of America
VRD	Victoria River Downs

Objectives

The objectives of this study were to:

- Investigate what product qualities today's beef consumers, globally are demanding.
- Identify how the Northern Australian grass-fed beef industry can utilise current production regions and methods, to adapt and meet, both the current and future, market demand.

Chapter 1: Introduction

As settlement spread across northern Australian in the 1800's, by 1885 the beef industry was the major user of land resources across the north, a statistic that continues even today, with the Northern Territory using approximately 96% of land for grazing, followed by Queensland with 94%, and Western Australia utilising 84% (ABS, 2013). From simple origins, the northern Australian beef industry has continued as a low intensive production system, and continues to reflect the pioneering spirit, whilst hosting a unique identity, producing beef in a rare and sometimes harsh environment.

Whilst once it appeared that all consumers had a country or farming connection, with the rapid expansion in population growth these connections now seem to be lacking, and consumers have lost touch with how their food is raised, produced and harvested, and these things are important to people (Ikerd, 2001; Parker, 2016). Today's beef consumers, all around the world, are trying to have a reconnection to where their food products come from and are interested in ensuring animal welfare and environmental sustainability standards are met, whilst requiring quality within the product.

This report looks at what consumers are requiring, and how the Northern Australian grass-fed beef industry currently produces its beef, and how the industry can further adapt, whilst also using traditional methods, to meet the growing demand within the current and future markets in many areas, including environmental sustainability, animal husbandry and traceability.

Chapter 2: Background to Consumer Demands

Origin and traceability

Consumers have become more perceptive about their food consumption choices, food safety in general, but in particular, meat safety has seen a push for more information and transparency in the supply chain, which has driven the development of traceability systems (Hobbs, n.d.; Verbeke, 2001). Initial debates of meat safety focused on the use of HGPs and antibiotics, but in more recent times this has expanded to include more safety issues, such as the outbreaks of foot-and-mouth disease and mad cow disease, which has led consumers to rethink their attitudes to and behaviour towards meat consumption (Gellynck & Verbeke, 2001). Consumer perceptions in relation to traceability have been investigated, and they associate traceability with health, quality, safety and control, which in turn leads to trust and confidence, so both industry and public authorities have developed various quality and safety assurance systems (Gellynck & Verbeke, 2001; Van Rijswijk, Frewer, Menozzi & Faioli, 2008). Accurate and accountable traceability systems, that can show clear results to consumers and provide more information about the origins of their meat, could go a long way towards restoring consumer confidence (Gellynck & Verbeke, 2001; Van Rijswijk et al., 2008). The strong reputation of Australian beef is particularly enhanced by the world class mandated traceability NLIS scheme.

Organic production

Globally the word “organic” has become one of the most powerful generic brands. This rapidly growing market segment doesn’t always provide the most efficient approach to food production but there is a very strong consumer preference for organics. Organic production is not a guarantee of quality, rather it is an assurance for the consumer of a production system without synthetic chemicals or fertilisers.

Animal welfare

Consumers are becoming increasingly concerned, and aware of, how animals are raised and treated for food production, with key concerns relating to how animals are housed, fed and handled (Animal Welfare Institute, n.d.; Mayfield, Bennett, Tranter & Woolridge, 2017; Schmidt, 2017). Farm animal welfare has fast become a complex and controversial topic, and

consumer expectations often go beyond that of legal requirements, as they are increasingly drawing connections between their own health and the conditions in which animals are raised (Global G.A.P., 2017; The Hartman Group, 2015). With the assistance of animal activists, there has been a new awareness of animal welfare over recent times, and this has led to changes in public policy and industry standards, however the average consumer still places trust in the farmers and producers and understand that they also have a great deal of care and compassion for the livestock they produce.

Closely tied to animal welfare, there is great influence on consumers to believe that animals that are granted the space to act out their nature, by wandering freely and grazing naturally, contribute qualities that are natural and healthy (The Hartman Group, 2015). Emerging in importance from consumers are characteristics such as grass-fed, raised on pasture, no processed animal parts in feed and free-range. With public concern and focus on issues related to livestock production, such as pasture to GMO feedstock and animal welfare, consumers are looking for transparency, and therefore there will be no lessening in the intensity of this concern (The Hartman Group, 2015).

Sustainability and the environment

One of the biggest challenges today is making food available to consumers without damaging the environment. While the need for quality food is increasing, consumer desire for sustainably produced goods, and understanding the environmental and sustainable story behind these goods, is encouraging farmers and producers to work more sustainably with their surrounding environment (Green Hub, 2017a; Green Hub, 2017b; Schwartz & Murphy, 2017). Farmers and producers are working towards making the industry less wasteful and most importantly helping to preserve surrounding wildlife and native vegetation, whilst also encouraging continued biodiversity of the natural ecosystems (Green Hub, 2017a; Green Hub, 2017b; Schwartz & Murphy, 2017). Visible sustainability, where a brand is demonstrating sustainability and end-to-end responsibility, is attractive to consumers, particularly with the millennials (individuals born after 1980), as they can be identified as not only the most “sustainable” generation to date (Keating, 2016).

Farmers and producers are recognised as being sustainable if they are demonstrating environmental viability, through its associated activities that conserve, recover and improve

the natural environment, and nature as a whole, including lands, waters, biodiversity, atmosphere and ecosystems (Bachev, 2016). Sustainability is also recognised through good governance efficiency, operations that are economically viable and efficient, with adequate economic return on used resources, and social responsibility, in relation to employees, other hired labour, communities, consumers and society, by contributing towards the continued, and improved, welfare and living standards of rural households, the preservation of the farming and production resources and the overall development of rural communities and the society as a whole (Bachev, 2016).

Landowners across northern Australia in pastoral regions can have a positive impact on environmental outcomes by ensuring adequate water infrastructure. Increasing watering points and ensuring their reliability spreads grazing pressure and reduces the impact of cattle on the native vegetation.

Meat quality

As meat consumption continues to increase globally, meat quality is becoming a more important influence over consumer choice, however as attributes are not all of equal value to individual consumers, production differentiation may be required (Henchion, McCarthy, Resconi & Troy, 2014). Although consumers look at many different attributes to encompass a whole meat quality experience, including those which have already been touched on, meat needs to taste good. Not only once, but each time a consumer makes the choice to eat beef. Focus must be on consistency, meat colouring, freshness, fat content or marbling, and most importantly taste and tenderness (Grunert, Loose, Zhou & Tinggaard, 2015; Verbeke et al., 2010).

Chapter 3: Northern Australian Beef Production

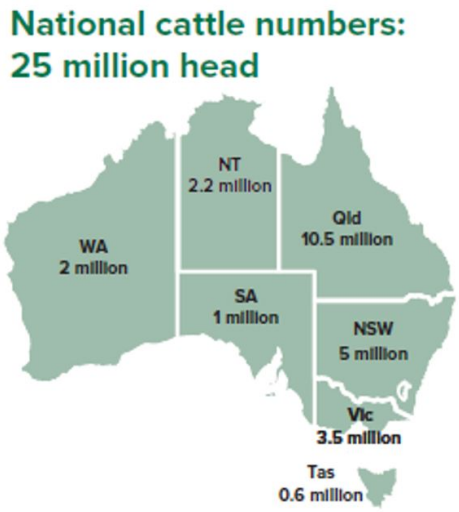

Figure 2: Cattle numbers – as at June 2016 (Meat & Livestock Australia Limited, 2017)

The Australian cattle herd currently is approximately 25 million head, with 13.9 million, well over half, being produced across northern Australia (ABS, 2017; Meat & Livestock Australia Ltd, 2017). Australia boasts a total of 312 million hectares of natural grazing land, Northern Western Australia, has around 18 million hectares of this grazing land, the Northern Territory, 136 million hectares, and Queensland 132 million hectares, (ABS, 2009; ABS, 2013; ABS, 2017a; ABS, 2017b; Dray, Huey, Fletcher, Stockdale, Smith & Department of Agriculture and Food, Western Australia, 2011; McLean, Holmes, Counsell, Bush AgriBusiness Pty Ltd & Holmes & Co, 2014; Meat & Livestock Australia Ltd, 2017).

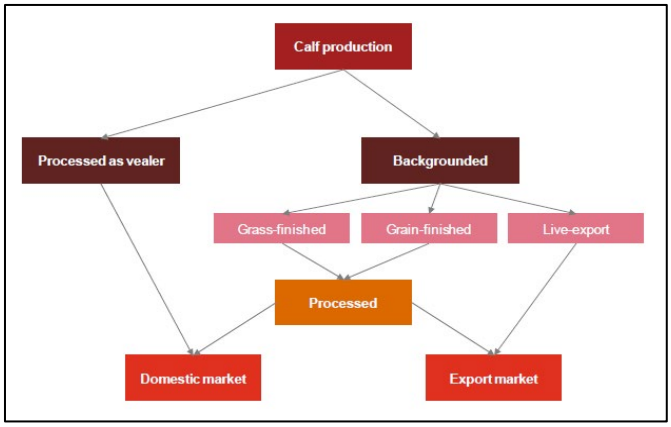

Figure 3: Cattle production process (PricewaterhouseCoopers, 2011)

A low intensive production system operates across northern Australia, and the different regions bring with them their own uniqueness, and sometimes an unforgiving environment, however they continue to produce quality grass fed beef for Australia. The cattle production table in Figure 3 depicts the cattle production process, and for majority of cattle produced in northern Australia, which are of Bos Indicus base, they follow the path of grass-finished or live-export (PricewaterhouseCoopers, 2011).

Northern Australian beef production areas

Kimberly to the Cape:

- Predominately Brahman to withstand cattle tick
- Definite wet & dry season
- Long distance to processors so the focus is on breeding and live export

VRD across the Barkly Tablelands to the Southern Gulf:

- Brahman and Brahman cross cattle
- Wet season shorter with some open grass plains

Alice Springs, Desert Channels to South West Qld:

- Low rainfall and predominately dry
- Dry conditions mean low tick risk
- Channel country inconsistent but excellent finishing when wet
- Isolated from markets both north and east

Burdekin and Fitzroy:

- Reliable rainfall, good soil fertility and water holding capacity
- More quality beef breeds focused on finishing
- Closer to processors

Figure 4: Typical developed buffel grass finishing/breeding country in Central Queensland

Chapter 4: Utilisation and Adaptation to Market Demand

Worldwide, there are numerous examples of agricultural producers developing marketing and production strategies to improve the attractiveness of their products to consumers particularly around the five key areas for this study of:

1. Origin and traceability
2. Organics
3. Animal welfare
4. Environmental sustainability
5. Meat quality

The majority of producers utilising these strategies are combining a number of the key elements of consumer demand. The story being told around the origin of food is intrinsically linked to sustainable production systems with good food quality and improved animal welfare outcomes. The proactive producer understand that it is difficult to convince a consumer that your product has credibility if you don't meet most of their demands. The case studies in this report; while included under one of the five key areas of market demand, could well be included under most of the headings. Lakota Ranch, TK Ranch and Suzanna Ruzenki provide excellent examples of the need to focus across the whole production system to meet consumer demand.

Origin and traceability

It has been highlighted that the origin and traceability of the product is extremely important to consumers, however they also have a keen interest in the welfare of the livestock, the sustainability of the environment, and the quality of product. The northern Australian grass-fed beef industry operates predominately over vast spaces, allowing livestock to roam freely, whilst in many areas leaving the environment in its native state, coexisting with the natural ecosystems. Producers across the north, may already be ticking many boxes for consumers, however have not gone that little bit further to be recognised for their methods, for example organic accreditation or MSA grading, which will further benefit not only themselves, as an individual producer, but the industry on a whole.

Case Study 1: Suzanne Ruesink Het. Westerndrop Farm (Netherlands)

The author visited this farm in June 2017 and attended their fair, where they open their farm to over 30,000 visitors for the weekend, to showcase farming in all aspects. In Suzanne's words: "*To get city folk in touch with farming, so they can see the animals, feel the animals*"

Figure 5: Suzanne Ruesink (second from left) with the author and other scholars at Westerndrop Farm

Suzanne's farm has a diversity of production, including dairy cows, pigs, plus farming and also diversifying into selling ice cream and meat, plus the recently developed and launched milk product, MELK.

Figure 6: Melk, a new milk product, developed by Netherlands Scholar Suzanne Ruesink (source: author)

In her words: "*For the first time, farmers are working together with NGO's, an animal welfare organisation, an environmental organisation, and a wildlife organisation with the biggest supermarket of the Netherlands, and six farmers. Because the actors in the food chain work*

together they can set a higher price for a premium milk product. The premium is based on more animal welfare for dairy cows"

There is a list of 196 goals which the farmer must do to get the special certificate. When the farmer has had a successful audit, they get extra six euro cents a litre for milk. The list contains goals like more space in the shed, more drinking facilities, brushes, more space for calves, always access to fresh water, even when the calves are very little. Also 5% of the land must be nature, to help biodiversity, No GMO feed and all energy produced on farm. In addition, dehorning only with the vet and no use of hormones. Cows are kept outside for 120 days a year, and six hours is the minimum.

While it is unlikely that a beef station in northern Australia is going to attract a crowd of 30,000 people, the example highlights the desire of the general public to become more connected with their food and the people who produce it. Suzanne's example also shows the potential to collaborate with organisations around agriculture to enhance the messages of responsibly produced food.

Case study 2: Agriculture and Horticulture Development Board (UK)

Founded in 2008 in the UK, the Agriculture and Horticulture Development Board (AHDB) is a levy board funded by farmers and growers, along with some other parts of the supply chain primarily focused on:

- pigs, beef and lamb
- milk, potatoes and horticulture
- cereals and oilseeds

Undertaking research and development, the AHDB also plays a vital role in improving farm business efficiency and competitiveness. Key activities include farm-level knowledge transfer, providing essential market information to improve supply chain transparency, as well as marketing activities to help stimulate demand, and develop export markets.

The author met with Karl Pendlebury, Matt Southam, Gareth Renowdon and Joseph Keating, from AHDB, in their office in Kenilworth, Warwickshire in June 2017, with discussions focused around the marketing of beef. An interesting point that the AHDB representatives highlighted was the misconception from consumers, that welfare accreditations, such as Red Tractor,

were also seen as a stamp of quality, but this is not the case. They believe the biggest driver behind the successful marketing of beef, or any agricultural product, is education.

The AHDB have developed an education program, aimed at those 14 to 16-years old, to get schools and students reconnected to food, farming and the natural environment. They believe that educating students, will be a key driver to ensuring a continued understanding between future consumers and producers.

AHBD hosts a 'British Beef Week', three times a year, with one of their aims to educate the consumer on the different cuts of beef, and how best prepare them. They feel that consumers are not understanding the best ways to cook and eat the different cuts of meat, which results in an off-putting eating experience, which then results in the loss of consumers in the beef sector.

Organic accreditation

The northern Australian beef industry, particularly in lower parasite affected areas, is perfectly situated to meet the criteria of organic production.

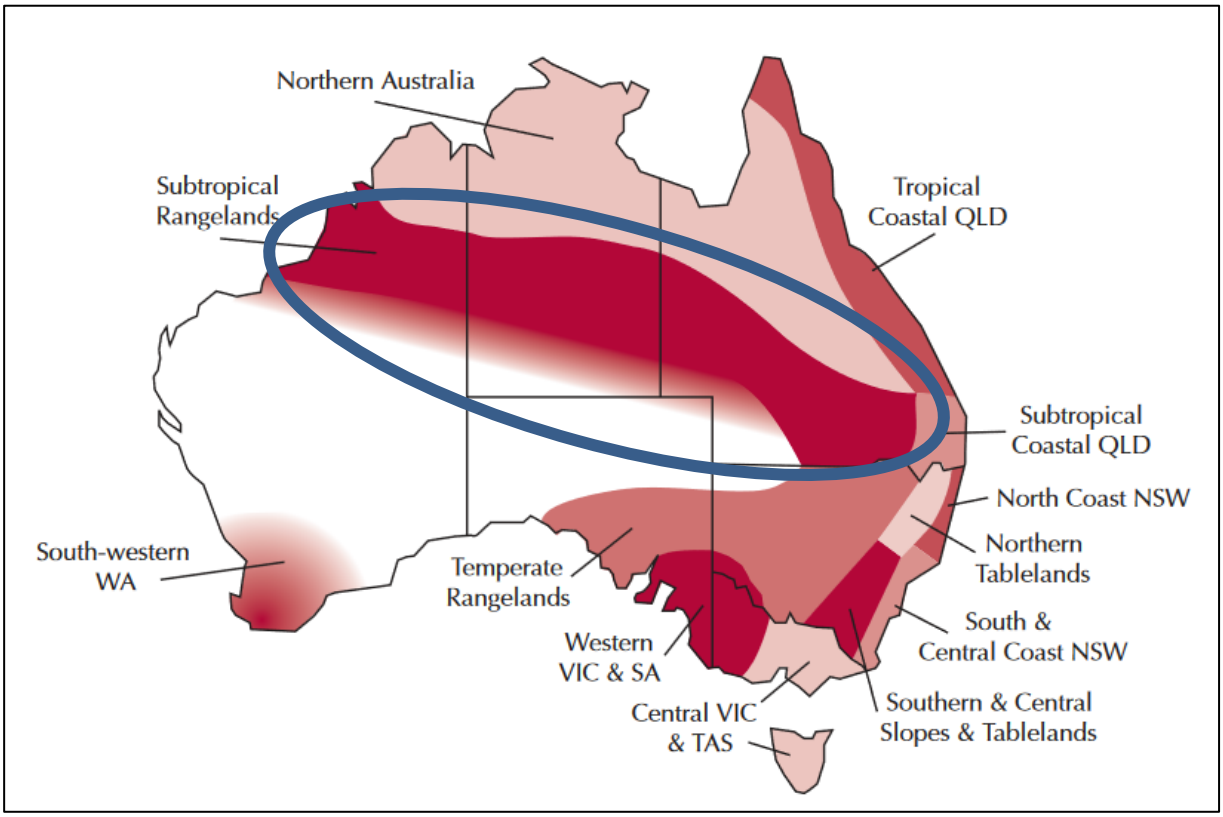

Figure 7: The cattle parasite atlas (Meat & Livestock Australia Limited, 2005) with potential organic production area

As shown in Figure 7, from the edge of the Fitzroy and Burdekin regions, in central Queensland, throughout the desert channels to Alice Springs, and into the Pilbara – outlined as the subtropical rangelands – are seen to be well suited to organic production, due to the hot, dry climate, where cattle are bred on extensive, low stocking rate operations, whilst grazing on native perennial and annual grasses, shrubs and native trees.

Livestock exposure to parasites is very limited, which means common or routine chemical treatments are not required (Meat & Livestock Australia Limited, 2005) Although barriers exist to adopting sustainable agricultural systems, initial evidence indicates that organic agriculture delivers greater ecosystem services and social benefits (Reganold & Wachter, 2016).

Animal welfare

RSPCA

Food production, and the key areas of how animals are raised, housed, fed and handled, are an increasing concern for consumers, so it is important that producers, and industry bodies, ensure that accurate information about northern Australian grass-fed beef production is promoted to consumers, allowing them to connect to where this beef is produced. The industry needs to be at the forefront of promoting the good practices that are already in place, which ensure the welfare of livestock raised, and work with respected partners, that are recognised and trusted by consumers.

A great example is the meat chicken industry, which has adopted the *RSCPA Approved Farming Scheme Standards – Meat Chickens*. These standards established by industry and RSPCA Australia aim for the bettering of welfare of meat chickens in Australia. Focus is not only on farm, but also during transport and at slaughter. The standards cover various aspects of production, including food and water, stocking density, management and health, catching, and environment and housing, to ensure good animal welfare for the birds throughout their lives (RSCPA, 2017). The Standards have been developed, and maintained through:

- RSPCA policy,
- scientific research,
- codes of practice,
- current legislation,
- veterinary and technical advice,

- standards and guidelines for animal welfare, and
- current industry good practice (RSCPA, 2017).

Meat chicken producers and farms, through a process of audits and, continued compliance with the Standards become approved under the RSCPA Approved Farming Scheme. They can then have their product marketed with the RSCPA logo, giving consumers instant trustworthy recognition to their product (RSCPA, 2017).

Global Animal Partnership (GAP)

Another animal welfare program, which was developed in 2008, and has seen great uptake in the USA, has started to be adopted through the Australian organic industry. GAP should be seen as an asset to gain consumer awareness and trust under a certified organisation focused on improving and maintaining farm animal welfare (Global Animal Partnership, 2018). Although introduced in the organic production system, the GAP program is independent of organic accreditation, and can be introduced into any livestock production system. The five step, or levelled program, is not a "one size fits all" approach, allowing for changes and growth within a business (Global Animal Partnership, 2018). Grass-fed livestock produced in northern Australia would automatically meet many of the standards set by GAP, which sees animal welfare defined through three intertwined components, including:

- health and productivity, where livestock is raised to be healthy and productive through access to good quality feed and water, and free from disease, illness and injuries,
- natural living, allowing livestock to be raised in an environment that allows them to express their natural behaviours, and
- emotional wellbeing, that allows livestock the ability to be happy, playful and inquisitive, whilst minimising, as much as possible, boredom, fear, stress, pain and frustration (Global Animal Partnership, 2018).

GAP's Animal Welfare Certified program uses a tiered labelling strategy, signalling to consumers how the animals were raised. Global Animal Partnership is a multi-step standard; for beef cattle there are 5 steps that are numbered, Step 1 - No Crowding, Step 2 - Enriched Environment, Step 4 - Pasture Centred, Step 5 - Animal Centred: No Physical Alterations and Step 5+ - Animal Centred: Entire life on same farm. In this standard, it illustrates that the higher the step number, the more the animal's environment mimics a natural environment. The

comprehensive GAP standard allows for continuous improvement in farm animal welfare. This standard reflects the latest research in agricultural science combined with achievable, practical application.

Case study 3: Arcadian Organic & Natural Meat Co. (Toowoomba)

The information in this case study has been provided by Peter Gall from Arcadian Organics & Natural Meat Co. who supply organic meat to the marketplace.

According to Peter, in Australia, "Step 4" is the only step level for GAP that is certified. This is classified as a production system that is pasture centred. Livestock that are certified to this step level have specific requirements for management practices, such as, weaning and castration. Producers are audited in 15-month certification cycles to ensure that the third-party auditor is able to audit the production system in all seasons and management phases.

Arcadian Organics chose to adopt this standard after being approached by Wholefoods, their largest export consumer. Arcadian has been getting producers certified to the GAP standard for approximately eight years. Since then the program has continued to grow with now over 50 producer operations being certified to the GAP program. This growth can be attributed to demand due to consumer awareness and their want to be buying from a more regulated industry. As Australian producers mostly fall in line with the GAP step 4 standard it has been quite easy to implement across the Arcadian producer group with producers having to change very little in their operation to comply with the standard. At Arcadian they believe that this has been a very beneficial for both consumers and producers as they strive to achieve the highest standards with the producer group. The implementation of this standard has also been beneficial for Arcadian as this is the way market demand in trending with consumers wanting to "*know more about their meat*".

Environmental Sustainability

Case study 4: Marellan Shorthorns. (Emerald)

Marellan Shorthorns are stud based in Emerald, central Queensland, with a focus on producing animals that are adapted to the climate of the north. Moving from NSW to central Queensland because they saw an opening in the market and demand from producers in the north for tropical adapted shorthorn that will meet quality and fertility. Lincoln Job, from Marellan

Shorthorns, says he believes that the consumer is the most important person in the beef industry. The aim is to produce a breed of cattle that is versatile, that can excel in both grass fattening and feedlot systems. Lincoln/Marellan Shorthorns created a Triangle of Profit shown in Figure 8.

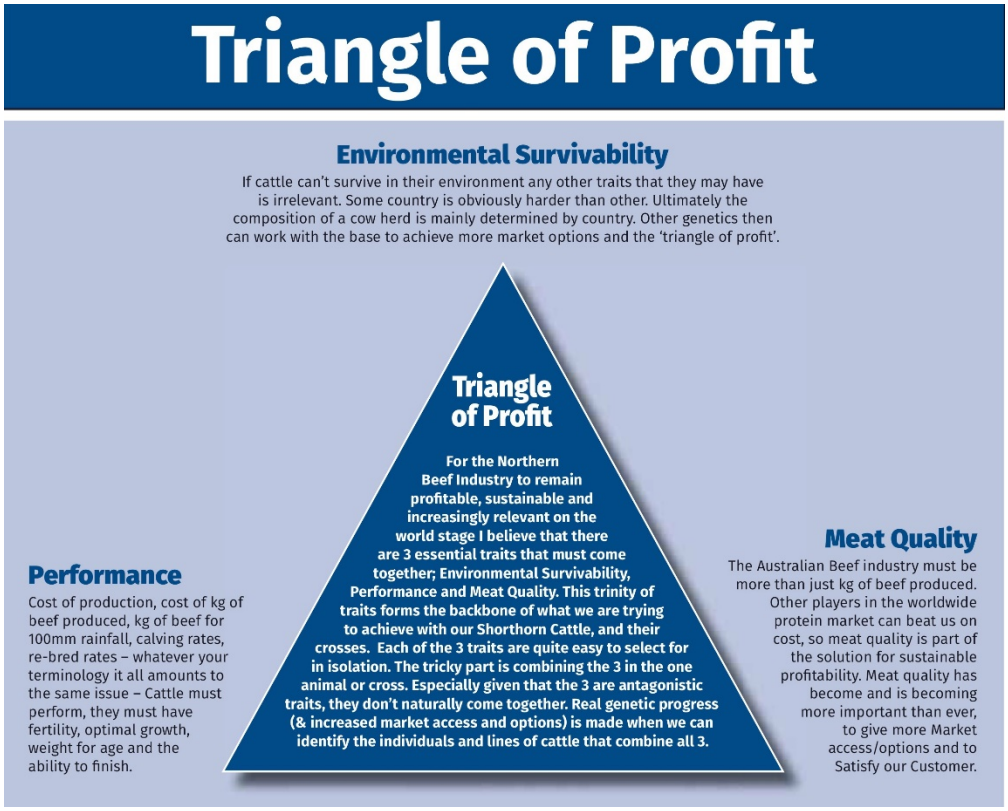

Figure 8: Marellan are a great example of a beef producer who has identified environmental sustainability as one of the key components to producing beef to meet consumer demand

Grazing BMP (Best Management Practices) accreditation

The Grazing BMP program, has been designed by northern beef producers, and is a voluntary, industry led process, that has been rolled out principally in the Burdekin and Fitzroy catchments of Queensland, which helps producers identify industry standards, across five main areas: Animal Health and Welfare, Animal Production, Grazing Land Management, People and Business, and Soil Health (Grazing BMP, 2016). The program assists producers to incorporate best management practices into their enterprises, giving them an opportunity to benchmark their businesses against industry standards, which can enhance the long-term profitability of their enterprise. The program also allows the industry bodies, such as AgForce, a peak organisation that represents Queensland's rural producers, to document how the

industry, as a whole, is managing their lands and livestock in a sustainable way, and over time will also allow the grazing industry to demonstrate good environmental management to the wider community (AgForce, 2018; Grazing BMP, 2016).

Meat Quality

Meat Standards Australia (MSA)

Research has shown that consumers count on an enjoyable meal experience, and it is of paramount importance that their meat reach their level of quality, as they expect a tender, tasty, juicy cut of meat on each, and every, occasion (Australian Butchers' Guild, 2014; Meat & Livestock Australia Limited, 2017). The development of the MSA standards saw over 100,000 consumers participant in taste panels, identifying key factors that delivered tender, tasty beef consistently, and this led to the MSA grading system, which has proven to take the guess work for consumers out of buying and cooking Australian beef, as they can be sure that the beef has met a strict criteria and will meet their expectations for flavour, tenderness and juiciness (Australian Butchers' Guild, 2014; Meat & Livestock Australia Limited, 2017). The MSA grading system, which measures each carcase on a number of attributes, including meat colour, fat depth, weight, maturity, marbling and ultimate pH, can at times can offer a premium to producers, whilst being completely free and easy to use system, that all breeds are eligible for, so it is worthwhile for beef producers to utilise as it delivers a quality product back to the consumer that meets their requirements (Australian Butchers' Guild, 2014; Meat & Livestock Australia Limited, 2017).

Case Study 5: TK Ranch (Canada)

TK Ranch, located in the Northern Fescue Plains, near Coronation, Alberta (Canada), is a family owned and operated farm, producing a beef and pork. According to Dylan Biggs, the head of TK Ranch, they have suffered at times at the hands of the commodity-based beef prices and have seen many changes in consumer demands over their 50 years at TK Ranch. Dylan explained that about 20 years ago TK Ranch decided to take a proactive approach to changing the way they did business, and took a path, almost unheard of in Alberta at the time, which removed them from the commodity market place.

Breeding adaptable cattle that thrive in this environment has always been the main focus for TK Ranch. Using their passion for breeding quality beef, TK Ranch began to sell their product

direct to consumers, using a local slaughterhouse to process, pack and distribute the end product. One of the biggest factors, and drivers for the change, was that the price fluctuation, that is seen the commodity marketplace, was removed. This stable income gave them a more predictable return, which allowed them to plan ahead and continue to expand the business into alternate areas driven by consumer demand.

Social media played a big role in TK Ranch understanding their consumer needs, by having an interactive online presence, and continually monitoring feedback. Dylan explained further that by selling direct to the consumer, they were more in touch with their needs. This led to them promoting their practices to their consumers, helping them to understand that they were a local family, that they had a passion for their land, the animals and their welfare. To add to this, TK Ranch built their own on farm, to reduce stock stress, and to further solidify their point of difference, giving complete control from paddock to plate.

Figure 9: TK Ranch cows (source: author)

TK Ranch also diversified into free-range pigs, due to consumer interest, and they have found that this has exceeded consumer expectations, and this also allowed for the business to keep additional family members employed. The ranch has also undertaken certification through Animal Welfare Approved and Certified Grassfed, as an extra measure to meet their customer standards. Dylan highlighted that their sales are driven by consumers that want to hear their story and share their passion for a natural product that is produced sustainably, whilst ensuring animal welfare standards are exceeded.

Case Study 6: Lakota Ranch (USA)

Jeremy & Jill Engh, of Lakota ranch in Virginia, breed Devon cattle, selling bulls, but also slaughtering a percentage of their own cattle, which they then sell through their own shop/general store, located on the ranch. The biggest selling point is the Devon breed and grass fed.

Jeremy says that the largest and fastest growing commodity in the organic marketplace is grass fed beef. He highlights that he thinks the 3 t's are critical for a pleasant eating experience: Taste, Texture, Tenderness.

The opened their shop in 2015, so they could deliver their product directly to the market. The ranch is not solely Devon cattle, they have also diversified and introduced pork and lamb, both pastured raised. Along with fresh eggs. All these are sold through the store also.

At the store front they created a welcoming/friendly atmosphere to encourage visitors to stop of a coffee etc. when visiting the store. A place away from town/city.

Figure 10: Lakota Ranch farm shop and beef products (source: author)

The Devon breed was seeing a decline in popularity, but Lokota ranch is now seen as one of Americas top class Devon breeder, and their genetics are highly sort after in the Devon industry.

Conclusion

The northern Australian grass-fed beef production system is low intensive and is a largely unspoiled but harsh environment. This should be used to highlight its uniqueness both nationally, and internationally, to showcase how beef is produced to meet consumer requirements, letting them connect to where their food comes from, how it is produced and who produces it.

Producers can draw on current accreditation programs, for instance organic certification or MSA grading, to further solidify their exceptional production methods, by associating with recognised and trustworthy partners, such as the RSPCA has done with chicken meat producers, to allow instant awareness of a quality product, that meets consumer need for:

- traceability, and origin transparency, to ensure confidence and tell the story of the product,
- animal welfare, ensuring livestock are well cared for throughout the duration of their lives, from birth to slaughter, meeting public expectations and industry standards,
- Organic production systems,
- environmentally sustainable, maintaining a balance between the natural environment, ecosystems and livestock production, and
- quality beef, that is fresh with a superb taste and tenderness.

Close to 300 million hectares of virtually untouched grazing land is utilised across northern Australia to produce grass-fed beef. For over a hundred years the northern Australian grass-fed industry has been a powerhouse of global beef production with nearly 14 million head of cattle spread across the north. During this time, although the quality of livestock and property infrastructure have changed and improved, the overall natural grass-fed grazing production system has remaining virtually the same. It is easy to see the industry over the next hundred years continue with the same rarity and pioneering spirit that has brought it this far.

The key study findings are that the consumer really wants to know about the story of how farmers produce beef in the northern Australia. The dry harshness of the environment, coupled with the remoteness, make a compelling story. The meat quality is of high interest hence using British breeds such as shorthorn and the Angus into the author's operation to get

better meat quality for the northern environment. This research has completely reinforced the need to continue with this strategy.

The author and family have also commenced transition to organics and the Nuffield research has cemented the belief in this direction. The organic industry is here to stay as the demand is outstripping supply.

For northern beef producers, one of the key challenges will be connecting with consumers. Strategies that work well in densely populated regions such as farm shops and fairs in the USA and Europe won't work in the remote pastoral areas of Australia. Yet, there is a need for a unified voice from industry to tell the story of beef production in the north, to promote the diversity of products and the attributes the customers are looking for.

As part of this connection with consumers the potential is to encourage the whole of the beef industry to become more aware of what their consumers are demanding. Beef producers need to focus more on what their customer wants and not just what they are used to producing, they need to become more open-minded and willing to listen.

Recommendations

For beef producers and all industry stakeholders in the northern Australian grass-fed beef industry, the following recommendations are made:

- The MSA grading is currently under-utilised so both producers and retailers need to better promote the high standard of product that is delivered through this grading system.
- Sustainability, particularly pertaining to environmental management, is one of the key consumer food production demands. To enhance the claim of environmental sustainability, producers need to focus on reliable water infrastructure that effectively utilises all the available grazing land. Continuing to implement technology, particularly in the area of stock water, utilising solar powered pumps and systems. By expanding watering points cattle will maintain body condition, whilst spreading the grazing pressure more evenly across the land.
- The northern beef industry production practices already meet many consumer demands, and so it is relatively simple to take advantage of current niche markets including grass fed premiums, organics and MSA grading. Often no major changes are required to the production system other than registration and certification processes. Northern Australia beef production is naturally organic, and it is recommended that producers look at the option and advantages that are attached to accreditation, as in many cases the conversion would be a simple process, and producers would then receive a premium for practices that they are already undertaking.
- Where possible, producers should increase polled genetics into their herds to enhance animal welfare. Care needs to be taken to maintain focus on the bone and carcass structure of the animal. By introducing the right polled genetics, producers will meet better animal welfare standards, and ultimately consumer demand, by reducing the number of beasts requiring dehorning.
- Introducing British and European breed bulls, such as Shorthorn and Angus, into the northern beef herds, will deliver a better meat quality. Crossing these softer breeds over the herd, which are primarily Bos Indicus, will produce a more consistent product, and increase the chance of meeting MSA grading. It is essential that these bulls have

been bred and adapted to the northern environment, as to survive the harshness of the north.

- Finally, the industry needs to sell the story around the simple grass-fed production system across northern Australia's truly unique environment. Not only a story about the quality of the meat, but the way of life in this harsh and remote environment. The industry needs to work together to connect with consumers, potential utilising social media and technology.

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Plain English Compendium Summary

Project Title:	Marketing Northern Australian Grass-fed Beef
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Objectives	The objectives of this study were to: • Investigate what product qualities today's beef consumers, globally are demanding. • Identify how the Northern Australian grass-fed beef industry can utilise current production regions and methods, to adapt and meet, both the current and future, market demand.
Background	The northern Australia beef industry offers a unique production environment. However, the majority of the industry is driven by the commodity markets.
Research	This report looked at what consumers are requiring, and how the Northern Australian grass-fed beef industry currently produces its beef, and how the industry can further adapt, whilst also using traditional methods, to meet the growing demand within the current and future markets in many areas, including environmental sustainability, animal husbandry and traceability. The research was conducted is Canada, USA, UK, The Netherlands and New Zealand, using a combination of interviews, farm visits, conferences and personal study.
Outcomes	Beef producers in northern Australia have exceptional room for growth to develop the industry into a niche market, by leveraging off the unique and natural production systems already in place. Producers can draw on current accreditation programs, for instance organic certification or MSA grading, to further solidify their exceptional production methods, by associating with recognised and trustworthy partners, such as the RSPCA has done with chicken meat producers, to allow instant awareness of a quality product.
Implications	As part of a connection with consumers the potential is to encourage the whole of the beef industry to become more aware of what their consumers are demanding. Beef producers need to focus more on what their customer wants and not just what they are used to producing, they need to become more open-minded and willing to listen.
Publications	Nuffield Australia National Conference, Darwin. September 2017