

The Australian Beef Industry

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Beef Industry*

*From family farm to
international markets*

The Basics



Key points

- Australia is a relatively small beef producer on a global scale. Though our small population means that consumption is low which allows Australia to export a significant volume of beef each year.
- Australia exports to a number of different markets, the largest of these is Korea, Japan and America.
- The Australian beef industry can broadly be divided into the northern and southern production systems.
- Australian cattle producers use different breeds depending on their ability to meet market specifications and handle climatic conditions.
- The Australian cattle industry is disparate and fragmented; this is most pronounced in the southern production zone.
- There are many different parties involved in the beef supply chain.
- Corporate ownership is prevalent in the northern production zone and the processing and feedlot industry is quite concentrated.
- The disease free status and traceability of the Australian beef industry provides a competitive advantage.
- Increasing international demand for protein means that the future of the Australian beef industry is bright.

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1 Overview of the industry

The original cattle bought to Australia with the first fleet in 1788 were intended to assist with development of the country. However, they escaped and their numbers increased rapidly until cattle farming became commercial.

This commercialisation was strengthened by the gold rushes of the 1850's where demand for beef in inland areas increased greatly. One person who profited from this was the great Sir Sidney Kidman who originally opened a butcher shop and later became the largest landholder in the world, at that time.

Landholders such as Kidman walked cattle vast distances to market and pastures. Originally many of these cattle perished as they were unable to handle Australian conditions. After years of animal and breed selection animal survival is much higher as different cattle breeds are used depending on their survivability.

Today, Cattle farmers in Australia collectively run 28 million cattle across 200 million hectares. The number of cattle in Australia makes it a relatively small producer on a global scale. However, due to its small population, Australia exports around 60% of produce making it the world's second largest beef exporter behind Brazil.

Key facts about the industry

Herd size	28 million head
Percent exported	60%
Beef Exports	\$5 billion
Live Exports	\$600 million
Producers	40,000
Herd size	28 million head
Percent exported	60%

Australia prides itself on producing superior quality beef that is free from diseases. Beef quality is determined by the size of the cuts produced from an animal and the marbling of the beef. The quality of product from Australian beef can be broadly segregated based on the breed of animal.

Bos Indicus cattle are generally selected by northern producers due to their hardiness, tick resistance and ability to cope with heat. The beef produced from these animals is typically of lower quality than beef produced from Bos Taurus animals. This strain of animal are generally used in southern production systems due to their ability to produce quality beef.

Typically, the beef from Bos Indicus cattle are either exported live to destinations such as Indonesia or are fattened and processed in southern regions. Whereas Bos Taurus animals are typically fattened processed and then consumed domestically or exported to premium markets such as Japan.

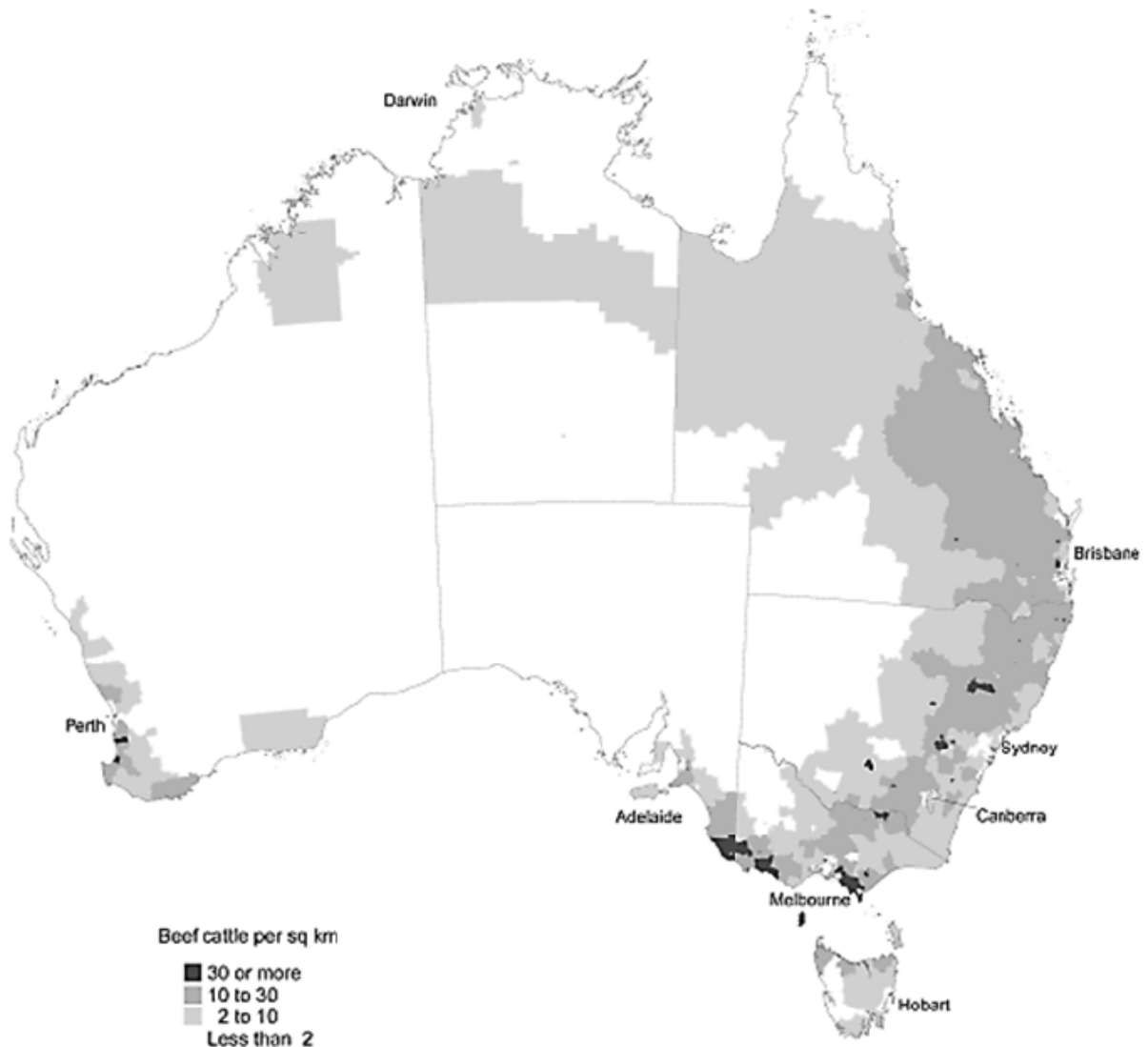
A variety of breeds are used by Australian producers. Famous Bos Indicus breeds include the Brahman and the Santa Gertrudis. Meanwhile notable Bos Taurus breeds include the British Angus and Hereford together with the French Charolais.



The industry is continually researching ways to improve efficiencies of production. This has allowed the industry to maintain profitability in a situation where input prices are increasing. The future of the industry is assisted by the fact that Australia has a reputation for producing high quality beef that is disease free.

2 What and where

2.1 Map of production



Source: Australian Bureau of Statistics

2.2 What is produced where and the markets of each

Northern cattle producers

Northern cattle producers account for 75% of farming land in Australia dedicated to beef. Despite this they account for just under half of the national herd. Cattle in the northern region typically forage for feed over sprawling properties.

Beef from these cattle is of lower quality compared to southern beef. Thus the northern area targets the Asian market through live exports. Alternatively, cattle are sent south where they are fed grain before slaughter. At which point, the beef is boxed and sent to countries such as America as 'hamburger' meat.

Southern Cattle producers

Farms in southern areas are generally more intensive than their northern counterparts. Farmers in this area generally run European and British breeds which are kept for their ability to gain weight and produce favourable quality meat.

After being slaughtered at varying ages, meat from these cattle is typically sold into high value markets. These include; Korea, Russia and Japan.

3 Challenges and advantages

The Australian cattle industry operates in a liberalised environment. This unilateral trade liberalisation has forced the industry to compete in international markets against producers who are heavily subsidised. As a result of this, Australian producers have invested significant amounts in productivity improvements. These have come from genetics, pastures and marketing.



As a result of the efficiencies achieved by many Australian producers, the Australian cattle industry is in a strong position to maintain profitability. Furthermore, this strength will allow the industry to embrace and capitalise on the opportunities that will present themselves in the upcoming years.

Reliance on a relatively small number of export markets gives rise to significant challenges for the industry. This was seen in 2011, when the Government suspended live cattle exports to Indonesia. The suspension of trade to this market threatened the future of many northern cattle producers. In the short time that the suspension was imposed it did not appear as if the industry could easily access alternative export markets.

A major strength of the Australian beef industry is its disease free, ‘clean and green’ image. The adoption of the National Livestock Identification System assists with this. The NLIS requires cattle to be given an electronic identification ear tag at an early age. As the animal progresses through the supply chain, it can be tracked via the NLIS.

An outbreak of disease in the US led the Japanese to suspend US beef imports for many years. This gave Australia an opportunity to gain a foothold in the Japanese meat market. If such a disease were to break out in Australia, the NLIS could isolate the disease in a very short space of time. Australia was the first country to impose such a system and it has given Australia improved access to many markets.

The SWOT analysis below depicts some of the challenges facing the industry and the opportunities that these present.

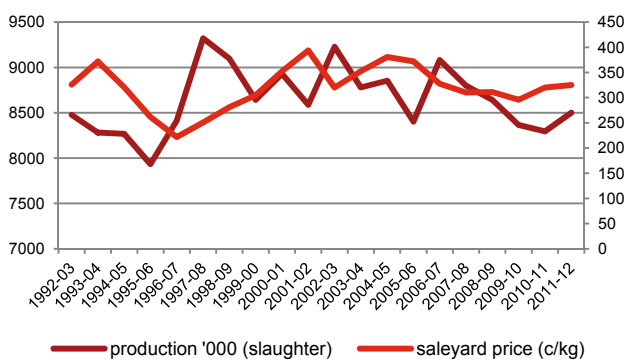
<p>Strengths</p> <ul style="list-style-type: none"> Efficient production methods ‘Clean green’ product Major exporter 	<p>Opportunities</p> <ul style="list-style-type: none"> Management of production risk Increased demand from Asia markets Attainment of greater efficiencies
<p>Weaknesses</p> <ul style="list-style-type: none"> Volatile global commodity markets Concentration of processing capacity Climatic variability 	<p>Threats</p> <ul style="list-style-type: none"> Input prices Disease risk Climate change

4 Australian beef production and its markets

Similar to other agricultural commodities Australia produces just 3.9% of the world's beef, however over 60% of production is exported. This means that Australia is typically one of the three largest beef exporters alongside America and Brazil.



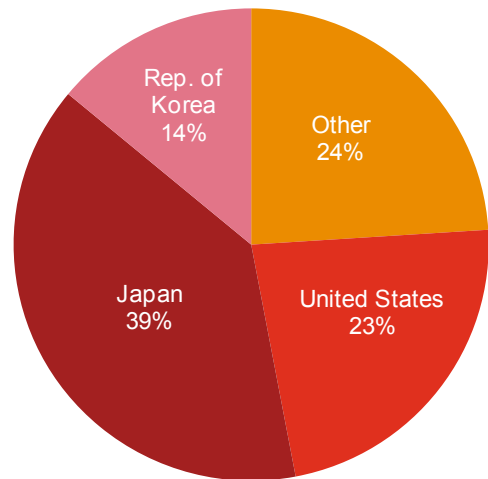
During drought years, slaughter rates generally increase. Farmers try to sell their cattle at a younger age to preserve their pastures. Due to the limited supply of feed grains that is associated with the onset of drought, feedlots are generally not overactive during drought. This explains the often inverse relationship between slaughter rates and saleyard prices which is portrayed below.



Source: ABARES

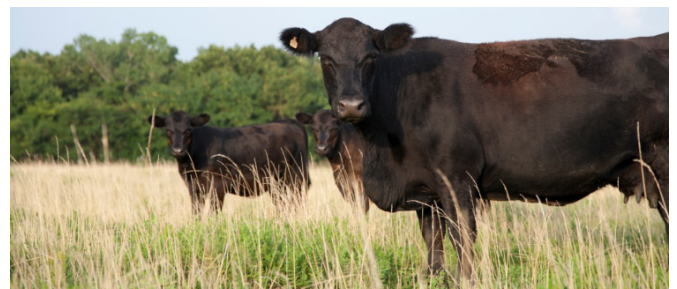
Australia exports 60% of production in the form of live exports or processed beef. The live export market is most prevalent in Northern Australia, where *Bos Indicus* cattle are exported to countries such as Indonesia. However, despite the growth in this live export market, most production is slaughtered and processed within Australia and then exported. The major destinations of Australian beef are shown in the chart below.

Beef export by location



Data source: ABARES

Australia exports high quality, high marbled beef to Japan and Korea. Typically, beef that goes to these markets has been through the production system and may have been fed in a feedlot for anywhere up to 300 days. The Japanese breed, Wagyu, is favoured in this market. Due to the prevalence and quality of British and European breeds in Australia, they also enter this premium market.



Despite the fact that the US has a much larger cattle herd compared to Australia, it services high-value markets. This gives Australia an opportunity to provide for its significant 'hamburger' market. The beef that enters this market is typically boxed beef that comes from northern producers.

5 The supply chain and major stakeholders

5.1 Pre- production

Service providers

Cattle producers rely on service providers for technical help and advice. They are used to assist in purchasing stock, provide marketing advice and assist in establishing the strategic direction of agribusinesses.

Genetics

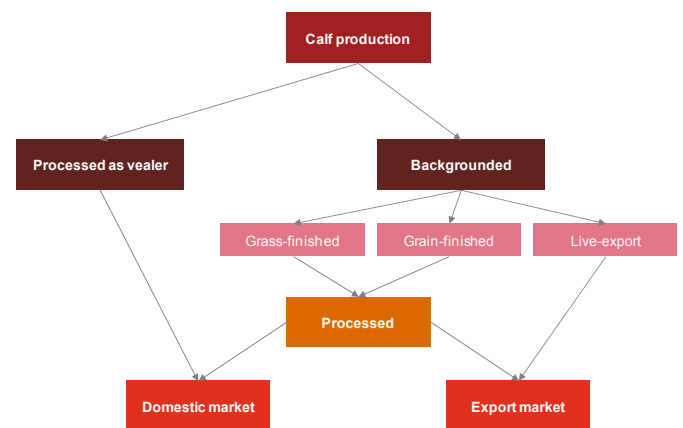
There are thousands of stud stock producers throughout Australia. They aim to provide favourable genetics to their clients that enable them to maintain profitability. This sector of the industry is disparate, however there are some large and very reputable producers.

Typically these providers of genetics use techniques such as artificial insemination and embryo transfer to enhance the quality of their produce.



5.2 Cattle Production

This is a disparate industry that is quite fragmented. This stage of the process can be divided between northern and southern producers. The typical cattle production process is depicted in the following diagram.



Typically southern producers run smaller herds in more intensive operations. These operations are generally run by families and sometimes struggle to gain size and scale. Major cattle production companies located in the southern production area include Minnamurra Pastoral Company (13,000 breeders), Watervally (10,000 breeders) and Sundown Pastoral Company (15,000 breeders).



There are many corporate style cattle businesses that operate in the northern zone. The largest of these is the Australian Agricultural Company which is currently in the early stages of commissioning an abattoir outside of Darwin. This abattoir will kill animals from its herd of over 500,000 head.

The supply chain and major stakeholders

Consolidated Pastoral Company (CPC) is another large producer in northern Australia. It manages 360,000 cattle across 5.8 million acres. In 2008, 90% of CPC was purchased by Terra Firma. Other major stakeholders in this part of the supply chain include; North Australian Pastoral Company (NAPCo), Paraway Pastoral Company and S. Kidman and Co.

These large cattle companies often own many properties that are environmentally diverse. Environmental diversity allows producers to minimise climatic risk. This is done by moving stock to 'greener' pastures or closer to market. Such an approach increases freight costs but reduces risk.

5.3 Feedlots

The use of feedlots in Australia has grown significantly since the 1980's. Australia now has the capacity to feed over 1 million cattle in feedlots at any one time.

The prevalence of feedlots in Australia is set to continue to increase in the future as demand for grain-fed beef increases. Such an increase is already seen in other parts of the world, namely America.

Concentration of feedlots and processing companies is significant compared to cattle production. For example Cargill which is a US based company has various feedlots and processing plants throughout Australia.

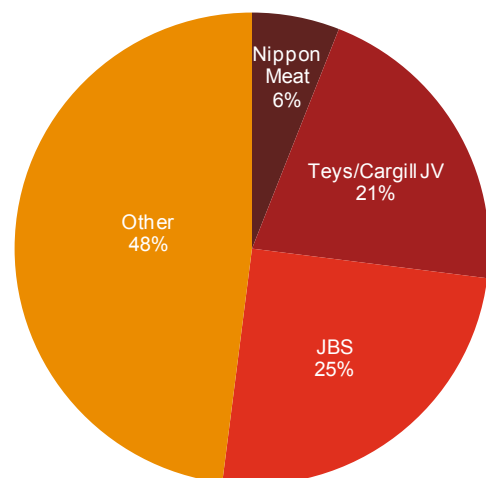


5.4 Processors

The Australian processing industry is continuing to rationalise, which has led to increased market concentration. Beef processing is most prevalent in Queensland, which processes nearly 40% of Australia's red meat. This is due to Queensland's proximity to cattle supply.



The top five processors account for over 50% of red meat production in Australia. Further to this concentration, the four largest processors in the country are either owned by or in joint ventures with foreign companies. These include, Cargill, Swift, JBS and Nippon Meat Packers.



6 *Mechanics of cattle production*

Pastures are where the production system begins. Cattle production is ultimately the conversion of grass or grain to weight and subsequently beef. Some farmers rely on pastures that grow naturally in their region (many northern producers rely on this source of sustenance). The protein and energy in this pasture is lower than introduced pastures but it is generally more resilient than introduced pastures. Other farmers will sow (plant) land to grass types that will produce abundant, highly nutritional fodder.

Farmers must decide what market they wish to target with their cattle. Some markets include the vealer market (calves sold off the mother at 9 months), yearling market (12 months of age), feedlot market (18 months), or the grass-fed market. Once this decision is made, farmers will use a breed that allows them to target their market and handle the local environment.

Currently the Angus breed is the most popular breed in Australia. This popularity is due to the ability of the Angus breed to produce premium quality beef (due to marbling). Other popular breeds include the Charolais which provides significant growth advantages and the Brahman which is a hardy breed which can withstand hostile conditions typically seen in northern production systems.

Once the decision of which breed to use is made, the farmer must source the right genetics. This involves the selection of males (bulls) that may breed their desired animal. Whilst some producers continue to rely solely on visual appraisal, many others use visual appraisal in conjunction with Estimated Breeding Values (EBVs).

By considering the traits of the mother, father and siblings EBVs provide a genetic description of an animal for a range of traits. An example of this is the 200 day weight EBV, which estimates the genetic difference of animals at 200 days of age. EBVs are quite accurate and allow producers to purchase bulls based on their ability to produce progeny that supply the producers desired market.

Producers must then join their bulls to cows. Northern producers may leave their bulls in all year, whereas most southern producers will only join their bulls to cows for a set period each year (6-12 weeks). Southern producers do this to ensure that calving takes place at a time when feed is nutritious and plentiful. Such feed is important at calving, to ensure milk supply is significant and to maintain the condition of the cow. It is important to maintain the condition of the cow as they are typically joined back to the bull when their calf is 2 months old.



Southern beef producers will typically wean their calves at any age between 4-9 months (200-300kg). At this stage they are either sold or kept by the producer. Northern producers will muster their cattle periodically and market those that are in prime condition.

Once weaned the calves will enter a backgrounding phase. During this time the farmer tries to provide enough nutrition to the animals to support a strong growth rate. The ability of farmers to do this depends on their target market, climatic and seasonal conditions.

Backgrounding will typically take place until the animals reach the weight required of the next process in the supply chain. This is either the grass finisher or the feedlot. Weights required of animals entering the feedlot depends on the market that the animal will enter. For example, animals that will be killed for the long-fed Japanese market typically enter the feedlot at 380-480kg.

Upon entering the feedlot, cattle are typically treated with vaccinations before being 'educated' about feedlot processes. Cattle are fed a specially formulated 'diet' which maximises their weight gain. This diet may change throughout the feeding program depending on what market the animal will be killed for and the time that the animal has spent in the feedlot.

Feedlots are typically located close to grain producing areas. This allows them to access feedstuffs without experiencing significant freight costs. The largest feedlot in Australia is located in southern Queensland, owned by Nippon Meat Packers Australia and can feed up to 75,000 animals at any one time.

7 Industry bodies

7.1 Meat and Livestock Australia

Meat and Livestock Australia (MLA) is a producer owned organisation. As a service provider the company undertakes research and marketing on behalf of over 47,000 beef, sheep and goat producers.

The company collects a levy from farmers who sell their cattle through the saleyard system. This is collected on a per head basis (generally \$5/head). This levy is set by producers through their peak industry body.

This levy money is collected by the government which then passes it on to MLA. The money is then spent on marketing or research and development (R&D). If the money is spent on R&D the government will match the levy money dollar for dollar. This money is sometimes complimented by one-off investments by producers, processors or private investors.

7.2 Cattle Council of Australia

The Cattle Council of Australia (CCA) is the peak producer organisation and represents Australian beef producers. Established in 1979, the CCA's membership includes the state farming organisations (SFO's).

The mission of the CCA is to represent and progress the interests of Australian cattle producers. In doing so it tries to create an environment for the sustained profitability of beef producers. It has 5 staff members but 23 councillors, these people represent the CCA on over 60 industry committees.

Since the suspension of live exports to Indonesia in 2011, the CCA has experienced criticism. There have been calls to restructure the organisation which would give producers direct membership rather than through the SFO's. As part of this proposal, producers would have voting power equal to their production output. This would mean larger producers such as AACo would have more voting power than smaller producers.



8 What the future of the industry may hold

Global supply-demand imbalance

It has been extensively documented that demand for protein is likely to increase significantly as incomes throughout the world increase. This is likely to increase demand for beef from many developing countries and improve Australia's export prospects.

Many of the countries that are experiencing increasing demand for red meat are trying to increase domestic production. In 2010 Indonesia imposed a weight limit on cattle exported there. This was done to incentivise local producers to increase production, with the desire of becoming self sufficient.

At the peak of the Soviet Union, Russia had a herd of nearly 10 million cattle, this recently fell to as little as 200,000 cows. This means that Russia has imported much of its beef for the last few years, however the country has set a goal to rebuild the herd to four million by 2020. In the short term this is providing opportunities to Australian producers who are exporting live breeding animals to the country. In the long term it is likely to increase global beef production and reduce export demand.

There are other countries that are in a similar position to Russia and Indonesia. Furthermore, the introduction of improved technology such as EBVs in international markets is likely to increase efficiencies and production. Despite the increased production that these efficiencies may bring, it is unlikely that this will match the increased demand from export markets.

Australian production

The Australian beef herd currently stands at 28 million head. This is significantly higher than the (albeit increasing) long term average. Recently, favourable climatic conditions have encouraged many producers to retain female stock for breeding.

A reason for the increase in the long term herd average has been the falling price of wool. This has made many sheep farmers swap production of commodities from wool to beef or grains. Currently, the high costs associated with entering the sheep meat industry are encouraging many producers to enter the cattle industry.

Another cause for an increased herd size is the access that Australia has gained to high value markets such as Japan and South Korea. Historically, Australia and America have battled for exposure to this market. However, in 2003 the US experienced an outbreak of foot and mouth disease (BSE). As a result, they were banned from exporting beef to these high value markets. Subsequently Australia's share of Japanese beef imports rose by 30%. In 2006 Japan

began to lift its ban on US imports, as a result exports to Japan are increasing. This indicates, that as the concerns about America's BSE outbreak fade, it is likely to challenge Australia's dominance of high value markets.



While productivity increases in the agricultural industry have been falling, commercialisation of numerous practices is set to see further productivity increases. Improvements in pasture productivity are set to make pasture production more efficient. The increased use of genomics will allow producers to fully understand the positive attributes of an animal before it reaches maturity. This will allow breeding animals to be selected and utilised earlier and with more confidence. The adoption of indicators of an animal's feed intake will allow farmers to produce and choose those animals that are more efficient at converting grass to weight.

Cattle are large emitters of methane. This means that if agriculture was to be ever included in Australia's carbon pollution reduction framework, cattle farmers may experience higher costs of production. Producers may be able to offset these production cost increases with adoption of practices that may be rewarded by the recently enacted Carbon Farming Initiative.

Appendix A PwC and agribusiness

PwC has a long history of servicing the Australian agricultural industry. Our track record is founded on our intricate knowledge of the industry, attained from working with clients from family-owned and operated farms to large publicly traded agribusinesses. We have travelled the long and sometimes troubled road with our clients, continually helping them to rise to their challenges and capitalise on their opportunities.

Our experience and knowledge of the industry together with the fact that PwC is a leading professional services firm places us in a unique position to meet the needs of the agricultural industry.

If you would like to speak to one of our agribusiness specialists please contact your usual PwC contact or visit www.pwc.com.au/industry/agribusiness

