Global producers

How are global and Australian beef and sheepmeat producers performing?

Global agri benchmark network results 2013

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Introduction

This report presents the *agri benchmark* network’s perspectives on recent global beef and sheep developments, the economics and drivers facing producers around the world, farm profitability (globally and in network countries) and views on likely future developments and challenges.

It then asks the question: how competitive are Australian beef and sheepmeat producers and what are the main areas where our farm productivity differs from other countries?

**What is *agri benchmark*?**

*agri benchmark* is a global, non-profit and non-political network of agricultural economists, advisors, producers and specialists in key sectors of agricultural value chains. The cattle and sheep network has 29 member countries, covering 90% of world beef production and 55% of sheepmeat production.

The core competence of the network is in analysing production systems, their economics, drivers and perspectives.

*agri benchmark* aims to assist:

- producers and their organisations to better align future production through analysis of comparative performance and positioning;
- non-profit organisations (governments, NGOs, international organisations) to monitor global agricultural challenges; and
- agri-businesses to operate successfully through in-depth understanding of markets and customers.

*agri benchmark* has branches covering beef cattle and sheep, dairy, pigs, cash crops, horticulture and organic farming. Within cattle and sheep, it covers breeding and finishing enterprises (cattle cow-calf, cattle finishing, ewes and lamb/sheep finishing). It is also unique in being able to separately measure the performance of the breeding and finishing operations even on joint breeding/finishing farms.

**Figure 1**

Countries in the agri benchmark network

![Map of participating countries](Image)

**Legend**

- **Participating countries 2013**
- **Contacts for further growth**

Source: *agri benchmark*

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1 See [http://www.agribenchmark.org/home.html](http://www.agribenchmark.org/home.html)
The results in this report are drawn from the collection of ‘typical farm’ data in each country, and subsequent analysis and research efforts of all member countries culminating in the 11th annual agri benchmark conference in York, England, 13-19 June 2013.

‘Typical farms’ are farms ‘engineered’ by local producers and experts to be typical of a country’s main cattle or sheep production systems, using annual data drawn from farms in the key production regions.

Australian and New Zealand agri benchmark typical cattle farms

AU180/65 (180 cows on farm/65 steers sold) – Northern tablelands NSW; Angus + sheep + wool; pasture feed base
AU200/85 – Southern tablelands NSW; British breed; pasture feed base
AU350/150 – Western districts Vic.; Angus; pasture, hay, oat grain feed based
AU560/415 – South east Qld; Simmental X Droughtmaster; cattle + crops; pasture feed base
AU600/540 – Northern slopes NSW; Charolais X Angus; pasture, hay, sorghum feed base
AU880/320 – Central Qld; Bos Indicus; pasture, mineral supplements feed base
AU990/375 – Central Qld, Bos indicus; cattle + crops; pasture, oats grazing feed base
AU15K (15,000 cattle sold) – south east Qld; British, Wagyu X; feedlot; concentrates, roughage
NZ375 (375 bulls finished & sold) – east coast North Island; pasture feed base

Figure 2
Location of Australian typical cattle farms and beef cattle density
**Australian and New Zealand agri benchmark typical sheep farms**

- AU 1250 (1250 ewes) – NSW slopes; Border leister X Merino, Dorset; sheep + crops
- AU1600 – NSW Northern Tablelands; Merino, Dorset Merino; sheep + wool + cattle
- AU2000 – NSW plains; Merino, Border Leister; sheep + crops
- AU2000WA – WA low rainfall; Merino, Merino and Poll Dorset; sheep + crops
- AU3000 – Western Victoria; Coopworth X Dorset
- AU4800 – WA medium rainfall; Merino, Merino and Poll Dorset; sheep + crops
- AU7800 – WA high rainfall; Merino, Merino and Poll Dorset; sheep + crops
- NZ3200 – East coast North Island NZ; Romney; sheep + cattle

**Figure 3**

Location of Australian typical sheep farms and sheep density
How are global beef and sheepmeat producers performing?

Beef and sheepmeat demand and prices

Growing demand, especially in Asia and the Middle East, and constrained supply, has seen world meat prices double in the past decade.

Sheepmeat prices have risen more than any other meat since 2000, but have also been the most volatile. Global sheep meat prices have lifted to a new higher plateau twice in the last 13 years, each time following a period of falling global supplies (excluding China) – with the latest culminating in a record price in 2011. The sharp correction in 2012 and follows a big jump in supplies, particularly in Australia and New Zealand (NZ), due largely to drought, and sluggish demand in Europe and the US.

The beef price rise (in US dollars) has been greatest in China (now five-times 2000 levels), followed by South America, Australia and Indonesia, and lowest in Europe and North America (double 2000). The jump in China and Indonesia was due to strong demand growth, constraints on local supply growth and severe import barriers. South American and Australian beef prices have been pushed higher by major currency appreciations against the US dollar and rising production costs, especially feed and land.
Farm costs

Beef and sheep farm costs have also risen substantially over the past decade, especially in the last five years, led by the cost of land and feed, but also for fuel, fertiliser and labour.

The fastest rises in beef production costs since 2005 have been in China (150%) and South America (100%), followed by the US (50%) and Australia (30%). EU cost rises have been around 20% in US$.

Global farm profitability

With high livestock prices, beef and sheep farms revenues (returns) generally covered short-term costs (cash costs) and medium-term costs (also covering depreciation), but the rapid jump in costs have kept long-term profitability allusive (covering opportunity cost).

While cow-calf enterprises have generally been profitable in most countries, beef cattle finishing has not been a profitable pastime over recent years (see sections on cow calf and finishing farm results below) due to the high cost of weaners and grain.

In 2012, prior to the latest drought, the ‘typical’ Australian beef cattle farms monitored by agri benchmark (all of which have both cow-calf and finishing operations except the feedlot AU-15k) were mostly profitable, both in the short-term and medium-term, due mainly to the cow-calf portion of farm operations. Few countries can boast long-term profitability at present, but half the Australian cattle farms did in 2012.

However, when net income from other sources or enterprises on the same farm (such as from de-coupled government payments, crops, sheep, wool etc) are counted to yield a whole farm profit, the results are mixed. Farms in Australia, NZ, Uruguay and Indonesia made a profit in 2012 without government payments. Farms in China, Ireland, France and Germany also made a profit with government payments. While results were mixed in Brazil, Argentina, UK, Canada, US, Mexico and South Africa, losses generally occurred in Spain, Russia and Namibia.

agri benchmark sheep network countries (covering 55% of global sheepmeat supply) reported that sheep farming was generally profitable in 2012. The majority of agri benchmark’s ‘typical farms’ made profits sufficient for short- to medium-term viability (covering cash costs and depreciation) and some even made a long-term profit (covering opportunity costs as well) – notably in Uruguay, NZ and China. Most European farms were not viable in the short- or medium-term (especially in the UK and Spain), even after government payments were included.
All but one of Australia’s seven agri benchmark ‘typical farms’ made short-term profits (covered cash costs), five of them achieving positive medium-term profits (also covered depreciation) in 2012, but only one made a long-term profit (covering opportunity costs also), with two other farms close.

**Global beef farm prospects**

Global demand for beef and sheepmeat is expected to continue its growth over the medium to long term, especially in ‘developing world’ markets of Asia and the Middle East. Even demand in the ‘mature’, but currently flat, markets of the developed countries is likely to begin recovering in the next few years – including in the US, Japan and the EU.

China’s beef and sheepmeat demand, supply and import developments will have a profound impact on global price, supply and trade.

However, land and environmental restrictions are set to severely constrain cattle and sheep inventories and production growth, essentially limiting global supply expansion to productivity growth. Also, farm costs are set to remain high, driven by land, feed (notwithstanding a short-term decline in grain costs) and fuel.

With rising demand and only slow supply growth in beef and sheepmeat (including, importantly, in North and South America and China), beef and lamb prices are likely to rise further, leading to improved global cattle and sheep farm profitability, despite rising costs.

A major economic challenge facing future livestock production and profitability in all major producing countries is to lift productivity. Perhaps the cheapest and more immediate gains could be made by targeting the enormous gap between the performance of the top and bottom beef and sheepmeat producers within major beef producing countries. Nevertheless, substantial potential can also be unlocked in developing and emerging countries where productivity levels are typically low and productivity gains can be achieved with relatively little additional inputs and management efforts.

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3 Includes net income from other sources or enterprises, such as from de-coupled government payments, crops, sheep, wool etc.
How competitive are Australian beef producers?

Cow-calf enterprises

Stocking rates of cow-calf enterprises
Queensland cow calf systems have relatively low stocking rates, on a par with similar rangelands of Montana and Kansas (US), Alberta (Canada) and South Africa. However, southern Australia’s higher rainfall systems maintain high stocking rates, similar to the European and South American systems.

Weaning rates (No. of calves per 100 cows)
The America’s tend to maintain lower reproductive rates, with the exception of Argentina which is comparable to the top performers in Europe. North Australian systems maintain reproductive rates between the lowest performers in the America’s and the top global performers. Southern Australian systems tend to preform comparably to European and North American systems. Depending on the costs and benefits of change, this is likely to be an area for further improvement in Australia.

Total live weight produced per cow
This ranges from 100-450 kgs globally (kg live weight (lwt) produced per cow per year) – weaners are the main part, but not all. The performance of Australian systems is in the middle and is quite diverse, ranging from 200kg to 320kg lwt, and could potentially be an area for improvement.

Weaner and cull cow prices
Overall, Australian weaner prices are similar to those elsewhere in the pasture-based systems of the southern hemisphere, which are lower than those in North America, Europe and Asia. Cull cow prices in Australia tend to be similar to those of South America, North America and Africa, but are lower than those received in Europe.

Total cow-calf returns (revenue)
Australia has comparably low total revenue (returns) from cow calf operations, due to a combination of lower weaner and cow prices and moderate production levels (weaning rates and production per cow). Countries in South America and Africa maintain similar returns, whereas the US, Canada, Asia and Europe maintain higher returns. European countries maintain significantly higher returns through government payments (both coupled and de-coupled payments).
Total cost of cow-calf production

Australia maintains a comparably low total cost of production in cow-calf systems, but similar to comparable systems in South America and Kazakhstan, and some Indonesia, Ukraine and South Africa. In most countries non-factor costs make up 40-50% of the total cost of production, whereas in Australia this tends to be slightly lower with more land costs. Most European countries maintain total costs of production 2-3 times higher than that for the low cost countries like Australia.

Total costs, returns and profitability of cow-calf production 2012

The South American, Asian and Australian systems maintain the lowest cash costs and total costs (ie. are most efficient at producing beef). Most production systems are capable of producing short-term profits (enterprise returns less cash costs), but it is only the lower cost producers that are capable of producing long run profits (enterprise returns less cash, depreciation and opportunity).

Three of Australia’s six pasture-based farms made a long run profit from the cow-calf portion of their operations in 2012, with the other four covering cash costs, depreciation and almost all opportunity costs. Generally, European systems are only capable of maintaining short-run profits through the additional income provided by government payments (coupled payments), but still do not cover opportunity costs.

In comparison...Australian cow-calf systems have:

- More diversified whole farm systems (maintaining both cow-calf and finishing systems within the same business)
- Relatively intensive systems (excluding northern Australian systems)
- Moderate to low weaning rates and moderate productivity per cow
- Low revenues due to both lower weaner and cull cow prices, and moderate productivity
- But, maintain some of the lowest cost cow-calf systems in the world
- Good short, medium and long term profitability
- Among the highest labour productivity (kg lwt produced per hour of labour input) of all farms in comparison (which is required to compensate for high wage rates)
Cattle finishing enterprises

Live weight at start and weight at end of finishing phase

Data indicates that many European systems have long finishing periods and high final weights (600-700kg lwt finished weight) with very low comparable starting weights (~100kg lwt). These cattle come from dairy herds and are either Holstein or dual purpose breeds like Fleckvieh.

Australian systems are similar to North American and Southern African systems, which have similar total weight gains in finishing (400-600kg finished weight) and similar entry weights (200-350kg lwt). South American systems tend to be in-between (150-200kg lwt at entry with around a 500kg finished weight). In all these countries, the vast majority of feeder cattle come from cow-calf operations, hence animals are older and heavier when they enter the finishing process.

Figure 15
Daily live weight gain

Source: agribenchmark

Daily and net weight gain

The ‘typical’ Australian feedlot chosen ranked 2nd (AU-15k, SE Qld) on daily weight gain basis in 2012, matching feedlots in the US, Brazil and South Africa, and higher than in Canada, Argentina and Europe.

Our pasture based systems had very mixed results for 2012, as our best pasture based systems rank 2nd (AU-540, NW NSW), 3rd (AU-65, NSW northern tablelands), and 7th (AU-85, NSW southern tablelands) when compared to other pasture systems on daily weight gain.

Comparison of beef prices in 2012

Beef carcass prices generally ranged between US$150 and US$300/100kg lwt across the globe in 2012, with the exception of closed or protected markets (through both tariff and non-tariff trade barriers), such as China, Indonesia and Morocco. European beef prices are relatively consistent internally and higher than southern hemisphere and North American prices (maintained by import barriers). Australia, Southern Africa and south American pasture-based systems receive some of the lowest prices.

In 2012, Australian pasture-based beef farms received prices below those in North America and Europe, but generally above those in comparable systems in Uruguay and New Zealand, and well above those in Brazil. The exception was Argentina, where a policy-induced shortage of beef has pushed prices to much higher than in other South American countries.
Costs of finishing

Generally, the lowest cost finishing systems exist in the Americas. For the majority of the world’s finishing systems it costs around US$1.60-$4 per kg live weight sold in 2012. The lowest cost finishing systems exist in the Ukraine, NZ, Brazil and Columbia. AU-15K (SE Qld feedlot), AU-320 (Central Qld) and AU-375 (Central Qld) maintain comparably low costs (similar to South America and the US), whereas the other Australian systems are comparable to the lower cost European finishing systems. The high A$ has generally raised the cost of Australian beef production in recent years, in US$ terms, relative to farms in the Americas and Europe.

Total costs and farm rankings

Feedlot and pasture based finishing systems tend to have lower costs than silage systems. Non-factor costs dominate in each finishing system, although land, capital and labour contribute more significantly within pasture and silage systems per unit of output. The Australian systems, whether feedlot or pasture based systems, had a comparably high total costs of finishing (in US$) in 2012, recently elevated by the high A$ and livestock prices.

Finishing costs, returns and profitability

The majority of beef finishing systems around the world did not generate high enough returns to cover total costs of production in 2012 (long run costs, including cash, depreciation and opportunity costs) and, in many cases, did not cover short-term (cash costs) or medium-term costs of production (cash costs + depreciation).

Operating losses on cattle finishing were made in the US, Canada and much of Europe. The notable exceptions were in Indonesia, NZ and China.
Figure 18
Cattle finishing costs, returns and profitability

![Graph showing cattle finishing costs, returns and profitability across different regions.]

Source: agribenchmark

How competitive are Australian sheepmeat producers?

Total returns (US$/100kg lwt)

Australian sheep systems are diversified in comparison to the rest of the world, with wool and cropping being major sources of additional income. The majority of Australian systems are in mixed farming zones, which also represent areas of highest sheep production and flock sizes. Wool income is only a significant contributor to income in Australia, NZ, China, Uruguay and South Africa systems. Other countries, like the UK, NZ and Uruguay, also commonly maintain diversification with cattle enterprises. In terms of total returns, Australian and NZ typical sheep farms are the largest by global standards.

There is large global variation in total returns (revenue) per 100kg lwt sold. Countries like Germany, Spain, Ireland and France (EU countries) receive significant amounts of government payments. These are either Whole Farm Payments (Germany, Ireland), Livestock Payments (France, Spain) or a combination of the two.

In comparison...Australian beef finishing systems have:

- Moderate to high weight gains within their respective systems
- Received lower prices than in North America or Europe, but above comparable pasture based systems in South America
- Moderate costs of production that do not, generally, cover the long term costs of operation
- Profits shifting between finishing and cow-calf systems, depending on weaner prices/values
- High wage rates which requires high labour productivity to compete with non-agricultural labour markets
- Most beef finishing systems in the world do not produce long term profits
Total live weight sold per ewe (kg lwt per ewe)\(^4\)

Generally Australian systems produce above average amounts of live weight per ewe, with the exception of AU-1600 (northern tablelands NSW) which is predominantly based on a fine wool merino flock.

Low levels of production per hectare tend to come from regions with lower rainfall and rangelands environments. Moderate to high productivity occurs in higher rainfall regions across Europe, Australia and NZ. Very high land productivity occurs in systems in Mexico and Tunisia, where animals are housed. Comparatively, Australian farms found in lower rainfall zones of WA and NSW are also similar to Uruguay, China, Morocco and parts of Europe. The higher rainfall farms found in south west WA, western Victoria and central NSW have comparable land productivity to European, UK and NZ systems.

Losses of ewes (annual) and lambs (birth to weaning)

Australia tends to have similar ewe and lamb losses to most other regions of the world, with the exception of South Africa/Namibia and France. In South Africa and Namibia this is predominantly caused by predators, particularly the Jackal, and in France, due to their intensive multiple lambing systems. AU-3000 (western Victoria) recorded high lamb losses between birth and weaning in 2012.

Weaned lambs per 100 ewes per year

European farms tend to have higher weaning rates than Australian farms, primarily due to maintaining more prolific breeds in addition to nutrition (supplementary feeding). Australian farms tend to maintain similar weaning rates to more rangeland or less-developed production systems where nutrition and/or genetics may be constraints.

This, more than likely, presents the area of greatest opportunity for Australian production systems, depending on the cost-effectiveness of increasing weaning rates. Although, flocks from higher rainfall regions (AU-1250 in central NSW and AU-3000 in western Vic) do maintain comparable weaning rates to the representative European and NZ systems.

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\(^4\) Total live weight sold per ewe is generally dominated by the sale of slaughter lambs in most production systems, although a few exceptions exist where there are well established finishing systems (UK, Algeria and Tunisia).
Lamb growth rates – store lambs: birth to weaning (grams/day)

Lamb growth rates on Australian typical farms varied significantly, though Australian systems generally maintain above average growth rates and are comparable to most global regions, including Europe and NZ. Overall, mean global weaning age was around 100-120 days, with values ranging from 50-60 in Spain and Mexico (due to very light slaughter weight markets) and Algeria (due to lamb finishing systems); and up to 170 days in Germany (due to on-farm lamb finishing) and Namibia (nutritional and management constraints).

Cash and total costs of meat production (US$/100kg lwt)

It is noticeable that many countries have well over US$2/kg lwt cash costs. Australian systems are well represented in the <US$2/kg lwt category to cover cash costs, whereas, only Uruguay and NZ have total costs <US$2/kg lwt.

Total costs of meat production (US$/100kg lwt)

Overall, Australian farms maintain a low total cost of meat production, with the exception of AU-1600 (NE NSW, due to high land and non-factor costs). New Zealand, Uruguay and some farms in China, Namibia and South Africa also maintain low total costs.

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5 The cash or non-factor costs represent largely variable costs directly associated with the enterprise. Feed and machinery are the dominant non-factor costs in Europe, with feed costs predominating everywhere else, except AU, NZ, CN UY and NA. Other inputs to ewe enterprises are directly allocated cash costs, such as enterprise specific wages (shearing, marking etc), and these represent major costs to Australian systems. Animal purchase costs are also important in AU-1250 due to being a non-self-replacing system (i.e. buys replacement ewes). Total long-run costs allow for depreciation and opportunity costs (including labour, land and capital).

6 Total costs include all allocated whole farm costs, as well as opportunity costs for labour (family labour), land and capital used. This represents a long-run cost of production. For capital, land and labour costs it includes opportunity costs of land, non-land assets and family labour (opportunity costs are calculated using a risk-free rate of return).

7 In China, land cost is difficult to estimate due to farmers maintaining only the right of use for 30 years, whereas renting usually only occurs for 12 months at a time.
Whole farm profitability (’000 US$)

On a whole farm profit basis (medium-term profitability), AU-7800 (WA), AU-2000 (central NSW) and AU-2000 (WA) were the most profitable globally, followed by NZ and South Africa (ZA-1800). All 15 typical farming systems managed to make a profit at the whole farm level, although this is partly dependent on other enterprises or non-farm returns (coupled and non-coupled government payments). Australian sheep farms generally maintain higher levels of profitability due to the diversification of the typical mixed farming systems. In 2012, cropping returns in particular were generally above average due to both favourable prices and yields.

Flock costs, returns and profitability (US$/100kg lwt)

Generally, sheep flocks in Australia are covering short and medium-term costs (includes depreciation) but, apart from AU-2000, do not cover long-term costs (opportunity costs).

Many countries, even with significant government payments (excludes de-coupled payments), are not profitable in the longer term. Often, total returns only just cover short-term cash costs. There are differences between what contributes most of the costs in different systems, especially in relation to developed v/s developing economies.

In comparison…Australian sheep systems have:

- Low losses, mortalities and wastage in the system
- Moderate to high meat production efficiency
- Moderate reproductive efficiency – with potential for further improvement through nutritional management and genetics – if economic to do so
- Above average growth rates
- High labour costs, but maintain excellent labour productivity
- Comparably low sheep returns, although maintaining low total costs of production
- Good whole farm profitability due to diversification (in 2012)
MLA 2014 Australian cattle industry projections

MLA's 2014 Cattle Industry Projections highlights growing export demand for beef and livestock, a lower A$, robust global prices and an improvement in cattle prices in 2014, on the drought-induced lows of 2013. However, the more positive outlook for Australian beef and cattle for 2014 hinges on substantial rainfall across the key cattle producing regions of eastern Australia.

The severe drought, particularly in NSW and Queensland, has seen near-record cattle slaughter (highest since 1978), increased mortalities and reduced calf branding, which will reduce the available supply of cattle over the medium term. With seasonal conditions for 2014 assumed to be ‘average’ (at best) to ‘below average’ across the majority of Australia’s cattle producing regions, Australian adult cattle slaughter is forecast to decline 9% year-on-year, to 7.6 million head.

Even with a lower A$ and robust demand in many markets, led by China, Indonesia and the US, Australian beef exports are forecast to fall 7% in 2014. However, the fall in supplies is likely to be felt most acutely on the domestic market, with beef consumption forecast to fall 11% in 2014.

The easing of import restrictions by Indonesia is forecast to enable a 27% lift in beef exports and 36% in live cattle to this market in 2014.


MLA 2014 Australian sheep industry projections

MLA’s 2014 Sheep Industry Projections point to higher lamb and sheep prices in 2014, on the back of growing export demand for sheepmeat and livestock, a lower A$ and strong global prices, combined with tighter lamb and mutton supply.

The Australian flock is expected to feel the impact of the record drought-induced lamb and sheep slaughter in 2013 – down 3%, to 72 million head as at 30 June 2014. As a result, lamb and mutton supply are forecast to fall 4% and 36%, respectively, in 2014.

While supply going forward hinges on seasonal conditions, international demand for lamb should remain strong – with the A$ assumed to trade lower, decreased competition from New Zealand and expanding demand, particularly from China (forecast up 2% in 2014), the Middle East (up 10%) and the US (up 7%).

The main impact of the tighter supply could be in the Australian domestic market, with higher retail prices and lamb consumption forecast to decline 8.3%, to 193,000 tonnes cwt in 2014.