

How are global and Australian sheepmeat producers performing?

Global *agri benchmark* network results 2022



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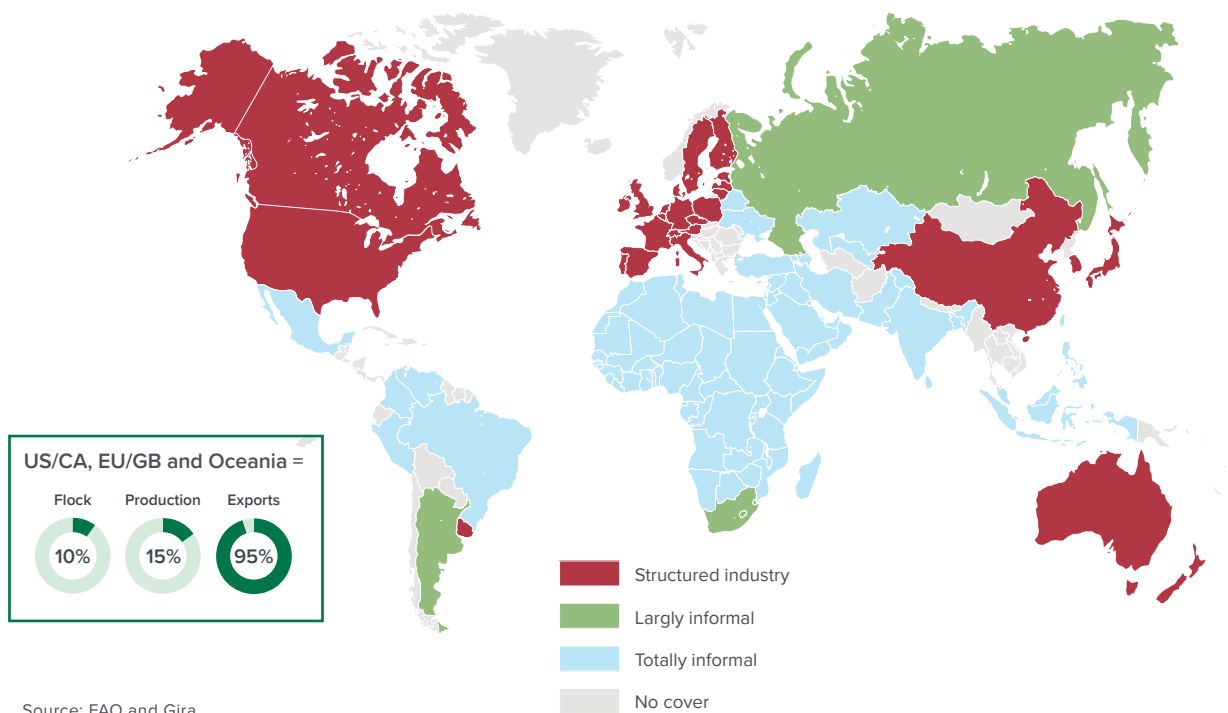
A comparison of Australian sheepmeat producers to other producers: International *agri benchmark*

Introduction

agri benchmark (AB) is a global non-profit, non-political network of agricultural economists, advisors, producers and specialists in key sectors of the agricultural value chain. It operates as an international network of research partners coordinated by the Thünen Institute – the German government rural research body. The sheep network has 18 member countries, covering 55% of world sheepmeat production. It has produced global productivity and performance results, and comparative analysis for the last nine years.

This report summarises the latest production year data available from the network (2021, collected in 2022). This data provides insights into the financial performance and productivity of Australian sheepmeat farms in comparison to their global counterparts.

Figure 1: Global sheep production structure



Source: FAO and Gira

In 2021 and 2022 supply constraints continued to dominate due to the impacts of climate, a reduced supply from countries with formal industry structures and competition from more profitable sectors like dairy and grains in New Zealand and Australia, respectively. The impact of carbon regulations in New Zealand has created some uncertainty in forecasting production levels, with supply expected to remain stable at best.

Demand is firm despite the economic impact from COVID-19, changing consumer demands and a perceived poor carbon footprint. The developing world continues to seek sheepmeat, imports into MENA are recovering after the sharp fall seen during COVID-19, and China's demand remains strong, although Gira predicts this to soften.



Opportunities

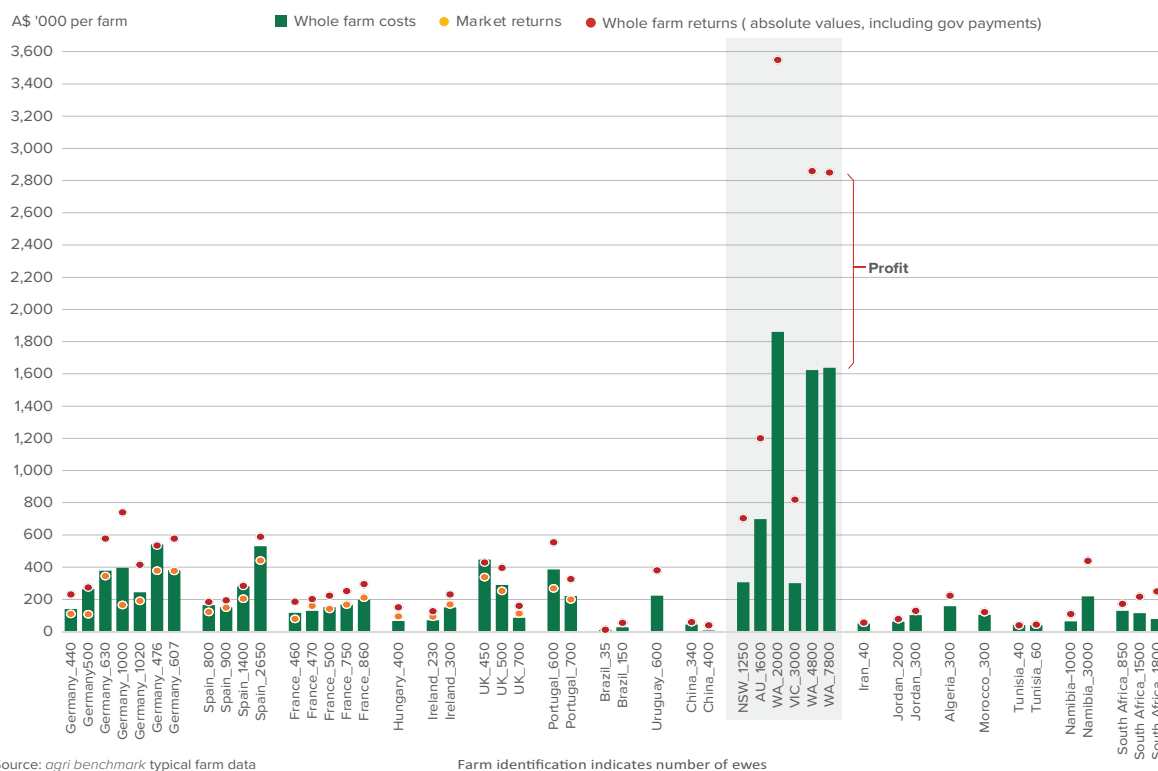
- Increasing demand in the United States and South-East Asia provide significant opportunities to increase trade into these markets.
- The UK Free Trade Agreement eliminates quotas into the UK after 15 years and allows for an immediate increase of 25kt, rising to 125kt by year 10, higher than New Zealand's 50kt by year 10.

Farm financial performance

After an outstanding year in 2020, the high level of profitability within the global sheepmeat production sector continued into 2021. Of the 47 typical sheep farms in the agri benchmark (AB) database, 96% made a cash profit in 2021¹, more than the 90% in 2020.

Australian agri benchmark sheep farms generally had a successful 2021 and generated whole farm profits (Figure 2).

Figure 2: Whole farm medium-term profit²



¹ Cash profit (short-term profit) = Total returns minus cash costs.
² Medium-term profitability = Total returns minus (cash costs + depreciation).



High demand and tight supplies drove lamb producer prices above the previous peak in prices in 2011, despite ongoing COVID-19 demand and supply chain disruptions (Figure 3).

Demand was driven mainly by developing nations and started recovering after COVID-related disruptions ended, which tempered consumption growth. Demand was severely interrupted in the MENA region, where there was a sharp fall in imports to the region for both live sheep and sheepmeat. Australian sheep carcass exports to MENA fell 68% from 2019 to 2021. However, strong demand from the United States and growing consumption in South-East Asia are opportunities for growth going forward. China remains the largest importer of Australian frozen lamb and mutton.

Supply improved in 2021 and 2022, with global flock expansion driven by the developing world and Australia’s flock number recovering after the drought conditions abated in 2020. Meat and Livestock Australia (MLA) are forecasting the national flock to grow from an estimated 76m head as at June 2022 to 78.75m in 2023, 23% or 14.75m head higher than the 100 year low in 2020

Figure 3: Lamb price index comparing regions

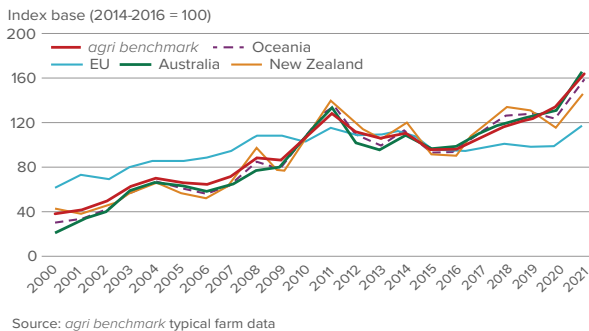
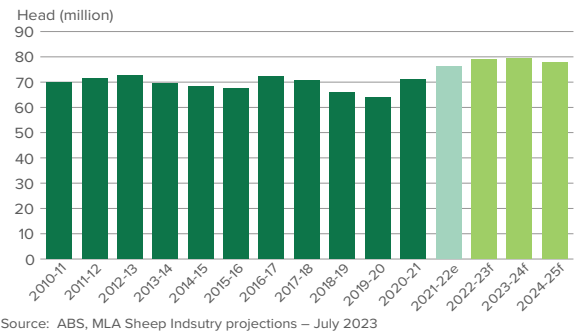


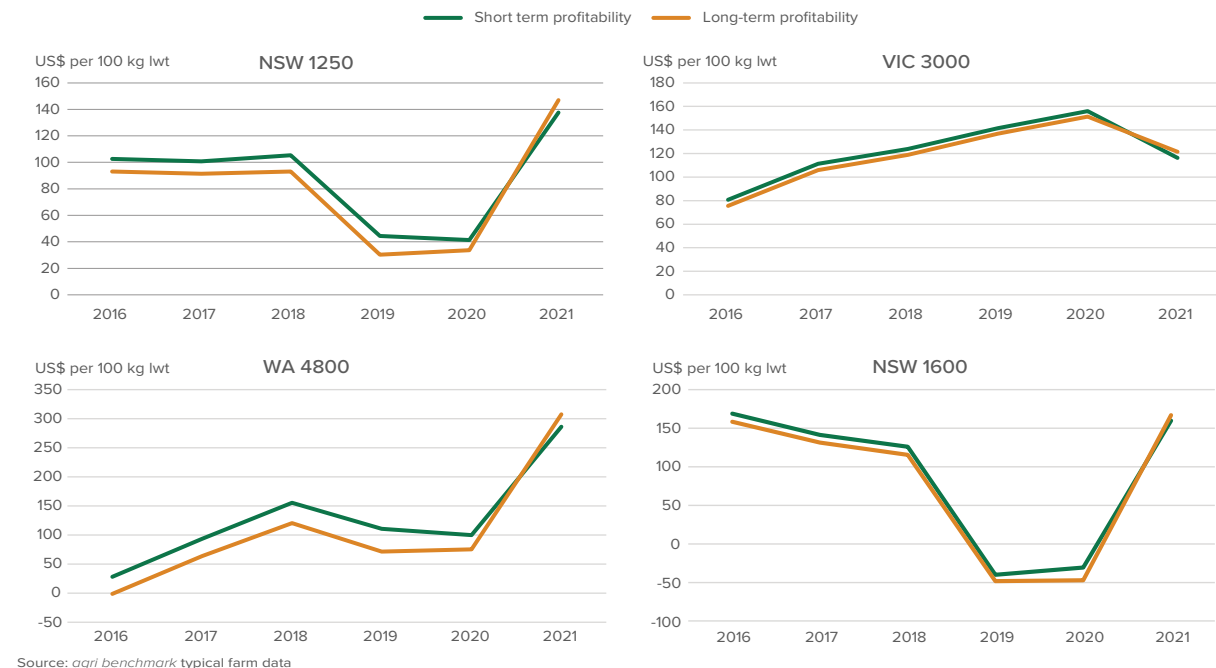
Figure 4: Australian national sheep flock (head)



As seasonal conditions improve creating abundant feed supplies, high prices and profitability are supporting the decision by farmers to increase numbers. On farm NSW_1250 sheep purchase costs were high in 2021 as they increased numbers to restock and use additional feed available, while NSW_1600 purchased more cattle to use the increased supply of feed.

High prices and outstanding seasonal conditions with abundant feed availability meant all the agri benchmark (AB) Australian sheep enterprises were profitable in 2021, most achieving the highest levels of profitability since the farms were first monitored in 2013. A combination of factors contributed towards achieving this result, in particular record sheep prices.

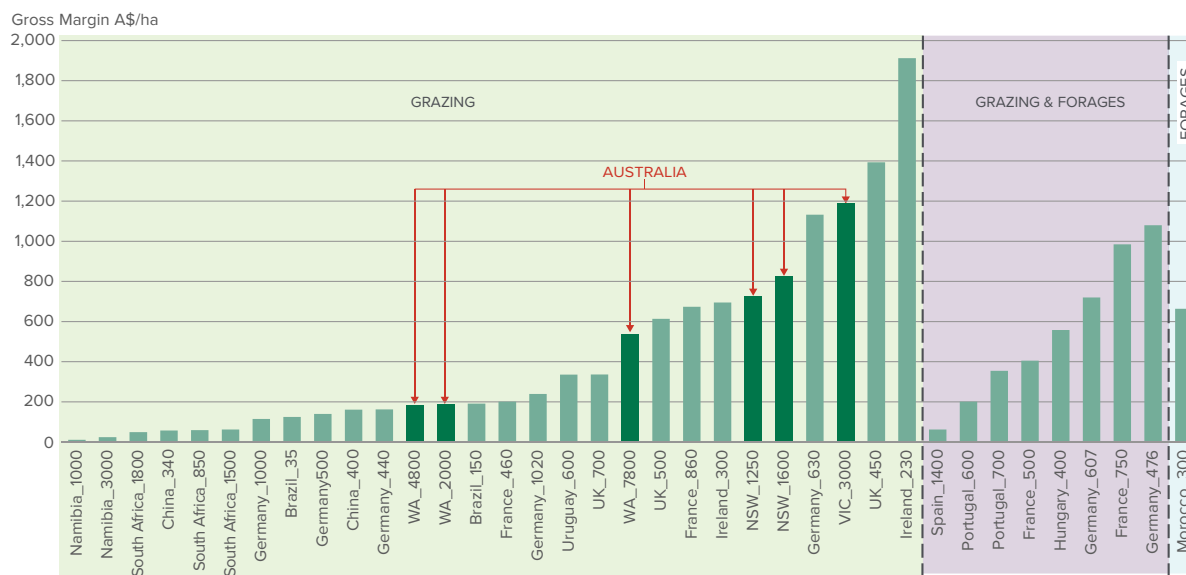
Figure 5: Profitability of Australian sheep farms from 2016 to 2021





Examining the gross margins per hectare is a metric used by most producers and their advisors in Australia. The high rainfall farms in Victoria, NSW and WA have similar gross margins per hectare to the European and Great Britain systems with high levels of productivity. The risk profile is likely to be different with a higher level of variance between years in the Australian farming system which is evident in Figure 5. There is also a difference between enterprise profitability as shown in Figure 6 between the high rainfall and high stocking rate systems producing more biomass in comparison to the lower rainfall in WA.

Figure 6: Gross margin A\$ per hectare for grazing and grazing & forages farming systems

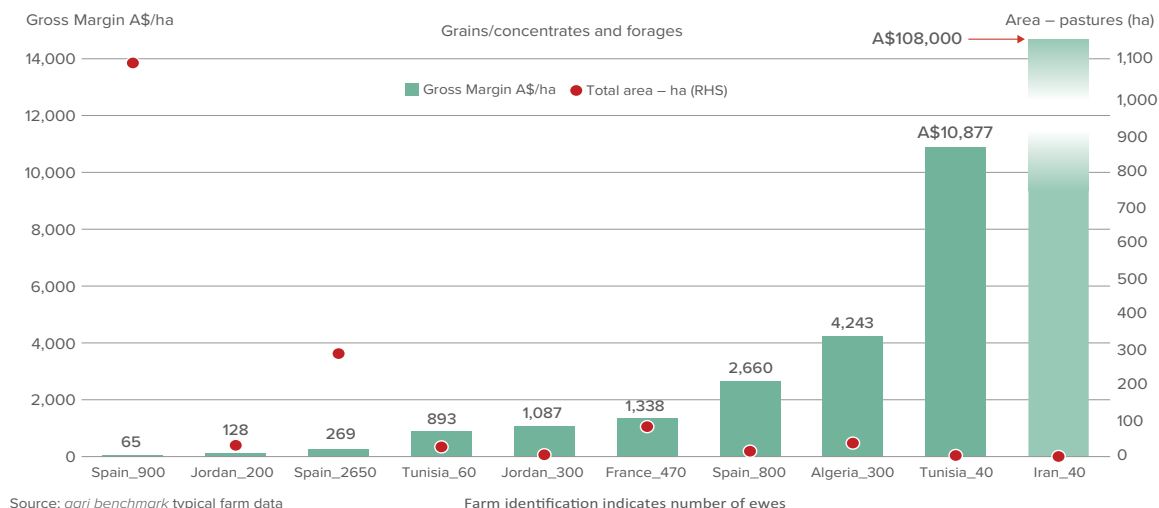


Source: agri benchmark typical farm data

Farm identification indicates number of ewes

The gross margins per hectare for the 'grain and concentrates' farming systems are shown in Figure 7. Some countries manage them in confinement areas and the gross margin per hectare metric is subsequently very high.

Figure 7: Gross margin A\$ per hectare for grains/concentrates and forages



Source: agri benchmark typical farm data

Farm identification indicates number of ewes



The profiles for the Australian AB typical farms, along with a summary of the 2021 seasonal conditions, is given in Table 1.

Table 1: Australian agri benchmark typical farm profile

	NSW_1250	NSW_1600	WA_2000	VIC_3000	WA_4800	WA_7800
Region	New South Wales	Northern Tablelands (NSW)	Northern agriculture region (WA)	Western Victoria	South-West WA	South-West WA
Production system	Grazing	Grazing	Grazing	Grazing	Grazing	Grazing
Climate	Temperate No dry season (hot summer)	Temperate No dry season (warm summer)	Grasslands Hot (summer drought)	Temperate No dry season (warm summer)	Temperate Distinctly dry and hot	Temperate Distinctly dry and warm summer
Main growing season	Spring	September to February	April/May to October	April/May to October	April/May to November	April/May to November
Precipitation distribution	Uniform	All year summer dominance	Winter dominant	Winter dominant	Winter dominant	Winter dominant
Average annual precipitation	627	790	320	680	350–450	550–600
Relief	Undulating	Hill	Plains	Undulating	Plains	Undulating
Feed source	Pasture	Pasture and forage oats	Pasture, grain and hay	Pasture, hay and forage oats	Pasture and grain/lupins	Pasture and grain/lupins
Pasture (ha)	350	231	1,650	600	1,600	1,630
Ewes	1,250	1,600	2,078	3,000	2,805	6,218
Breed of ewe (F1)	Merino x Border Leicester	Merino	Merino	Coopworth X	Merino	Merino
Breed of sire (% ewes mated)	Dorsett Horn (100%)	Dorset (30%)	Poll Dorset (30%)	Dorset (100%)	Poll Dorset (30%)	Poll Dorset (25%)
Lambs sold as suckers (head)	219	169	84	1648	–	1358
Lambs sold later (head)	1239	846	1136	1730	1187	1972
Conditions for 2021	Very wet year with no supplementary feeding required which rarely occurs. Autumn lambs were very good with green feed. The late winter lambs were good, but the wet conditions created issues with pregnancy toxemia and foot abscess in ewes. Input costs increased and wool prices decreased.	Post drought recovery with exceptionally good seasonal conditions starting mid to late 2020 and continuing in 2021. Fertiliser was foregone to purchase livestock to restock.	An exceptionally good season with near perfect conditions. Good early winter rains which meant pastures growth rates were good and good seasonal conditions throughout meant outstanding crop yields.	2021 saw a very wet start to the year in January which resulted in good production from summer fodder crops, followed by an average autumn and a relatively wet winter. The region saw a relatively good spring, though not as good as the previous year, with an earlier cut-out. Wool prices were down on the previous year, while lamb and mutton prices continued to rise.	An exceptionally good season with good pasture growth rates.	An exceptionally good season with near perfect conditions. Good early winter rains and ongoing pasture growth provided good feed and outstanding crop yields were achieved

UK

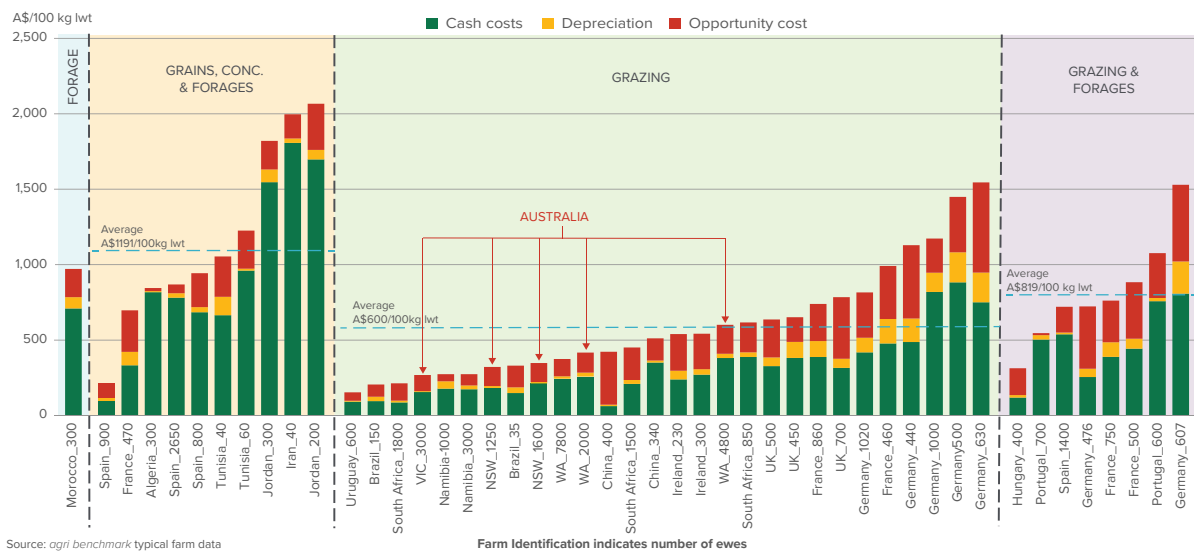


Cost of production

Australian farms remain low-cost sheepmeat producers in 2021, achieving economies of scale with large size farms and high levels of whole farm profits (Figure 1).

The total cost of production for agri benchmark farms includes cash costs (also known as variable costs), depreciation, and opportunity cost. The opportunity cost is the value of the next best use of the labour, land and capital invested in the enterprise. It acknowledges the cost of using these resources to generate an income from the sheep enterprise instead of using these resources for alternative investments.

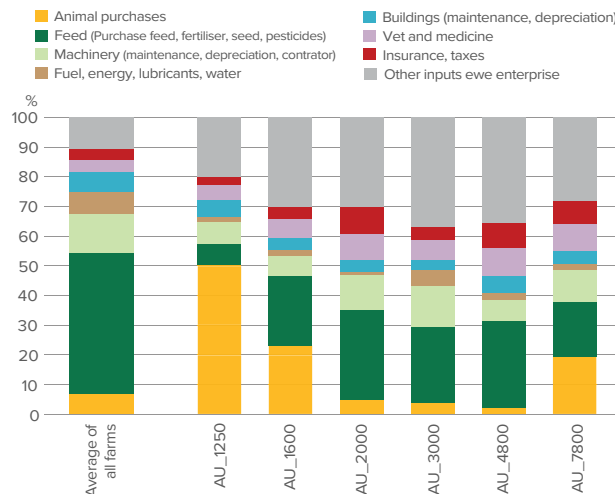
Figure 8: Total cost of production A\$ per 100 kg lwt by production system



Source: agri benchmark typical farm data

Farm Identification indicates number of ewes

Figure 9: Variable costs for Australian farms compared to the average for all farms (%)



Source: agri benchmark typical farm data

The grazing system has the lowest average total cost of production at A\$600 per 100 kg lwt. The cash costs for the grazing systems are A\$321 per 100 kg lwt, lower than the grain and concentrates production system, which is A\$976 per 100 kg lwt. However, the average for the opportunity cost is A\$218 per 100 kg lwt for the grazing system compared to the lower average of A\$188 per 100 kg lwt for the grains and concentrates production system. This is not unexpected because the land use in the grazing system is higher and the opportunity cost for owning land is high.

The variable costs include, animal purchases, feed purchased, fuel, maintenance of buildings, veterinary and animal health costs and insurance. The other inputs for the Australian sheep farms include shearing and crutching and lamb marking. These costs are much more significant for Australian farms compared to the other agri benchmark farms. The largest cost for the agri benchmark farms is purchased feed, Figure 9.

South Africa



Table 2 provides the values for the variable costs for the ewe enterprise which shows that the Australian farms variable costs are lower than the average for all agri benchmark farms. The Australian farms have a larger proportion of other costs compared to the average agri benchmark farms because the farms have a wool focus and have shearing and crutching costs.

Table 2: Total variable costs for ewe enterprise (A\$ per 100kg lwt)

	Total of variable costs for ewe enterprise	Animal purchases	Feed (purchase feed, fertiliser, seed, pesticides)	Machinery (maintenance, depreciation, contractor)	Fuel, energy, lubricants, water	Buildings (maintenance, depreciation)	Vet and medicine	Insurance, taxes	Other inputs ewe enterprise
Average of all farms	478	34	226	63	37	31	20	18	50
AU_1250	188	94	13	14	4	11	9	6	37
AU_1600	215	50	51	15	5	8	14	9	65
AU_2000	250	12	76	29	3	11	21	23	76
AU_3000	148	5	38	20	8	5	10	7	55
AU_4800	393	8	116	27	10	23	37	33	140
AU_7800	236	46	44	26	4	11	22	18	67

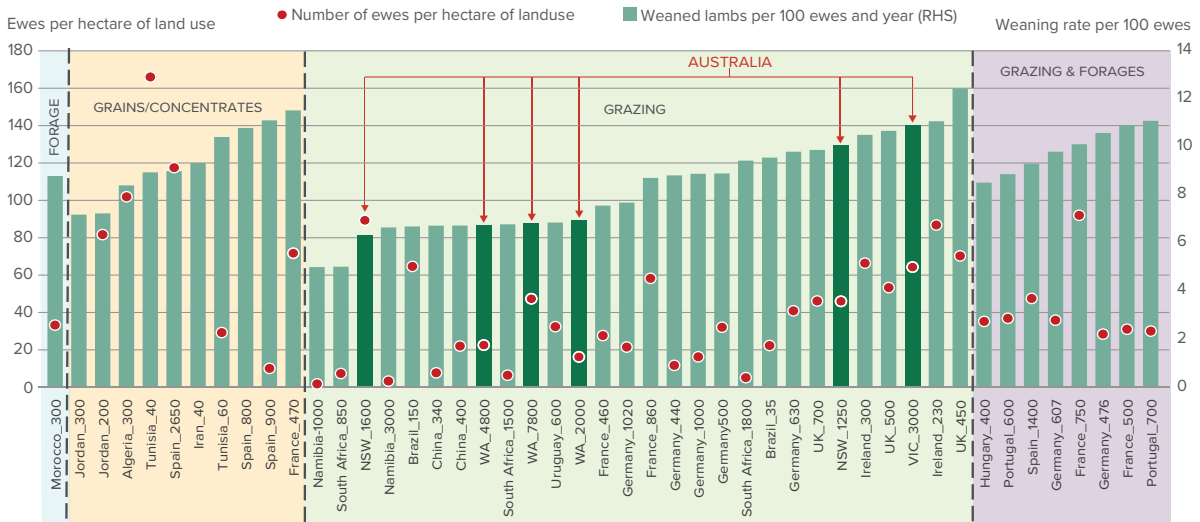
Source: agri benchmark typical farm data

Productivity of Australian and global sheep farms

Global sheep farms productivity is compared by farming system in Figures 10, 11 and 12. The types of farming system are defined by the dominant feed supply. For some farming systems grains and concentrates are the dominant feed source, whereas in other systems grazing pastures is the dominant feed source. Some systems also feed forages and in Morocco, for example, forages are fed in a cut and carry farming system. The type of farming system impacts on productivity, and it makes sense to compare productivity by farming system.

The variation in the grazing-based production systems is the highest compared to the other production systems. In Figure 10 the number of weaned lambs per 100 ewes varies from 64% to 160% in the grazing production systems. This reflects the difference between country sheep production systems. For example, countries like Namibia and South Africa have low numbers of ewes per hectare and low birth rates per ewe due to predation and rangeland conditions caused by low rainfall and pastures that are not suitable for high intensity grazing. In comparison, 160 weaned lambs per 100 ewes for UK_450 reflects the high-quality grazing pastures and intensive management systems which cope with 5.5 ewes per hectare of land use. Ireland_30 is similar with 6.7 ewes per hectare of land use. The Australian farms in New South Wales (NSW_1250) and Victoria (VIC_3000) have high levels of productivity with weaning rates at 130 and 140 per cent, and stocking rates of 5 and 3.6 ewes per hectare, respectively.

Figure 10: Weaning rates and ewes per hectare by farming system



Source: agri benchmark typical farm data

Farm Identification indicates number of ewes



A few countries with grain and concentrates systems have extraordinarily high stocking rates due to confinement feeding, for example Iran_40 has 133, Jordan_300, 60 and Spain_800, 53 ewes per hectare of land. These figures were removed from the graph to prevent them distorting the data.

The mediterranean climate and predominant use of Merinos in Western Australia results in lower weaning rates, which were generally below 100% in 2021. These rates have generally improved in recent years, being dependant on seasonal conditions. All three WA farms were close to 90% in 2021 and NSW_1600 80% – these farms use Merino ewes for their wool production and mate a proportion to terminal sires for prime lamb production.

Weaning weights and growth rates are measures of productivity, Figure 11 shows these measures by production system. Australian systems tend have above average weaning weights but around the average for growth rates.

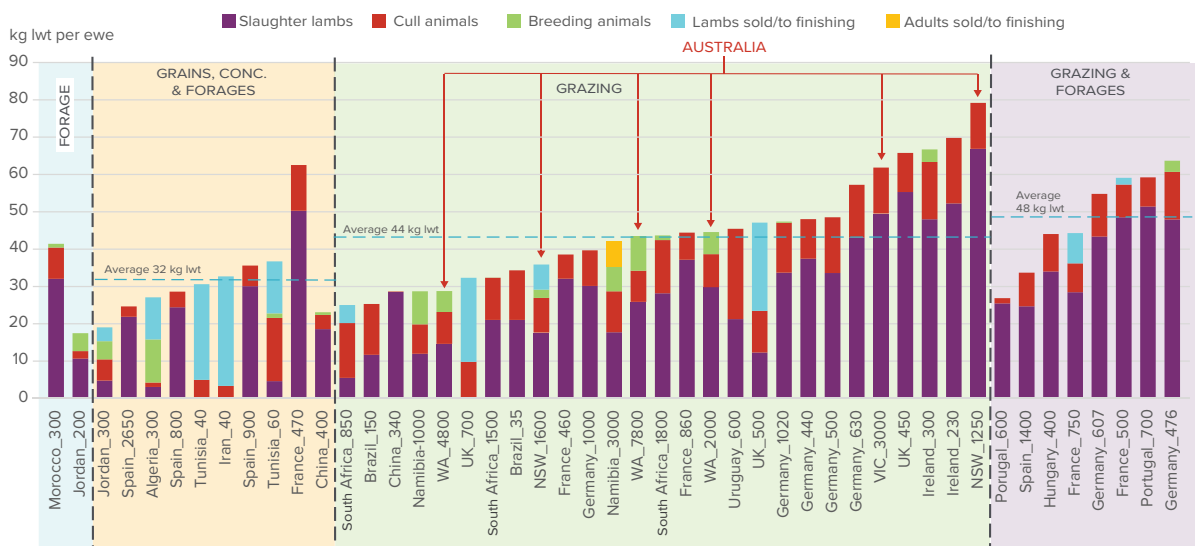
Figure 11: Weaning weights and growth rates – birth to weaning grams per day



Source: agri benchmark typical farm data

Farm Identification indicates number of ewes

Figure 12: Kilograms of liveweight produced per ewe



Source: agri benchmark typical farm data

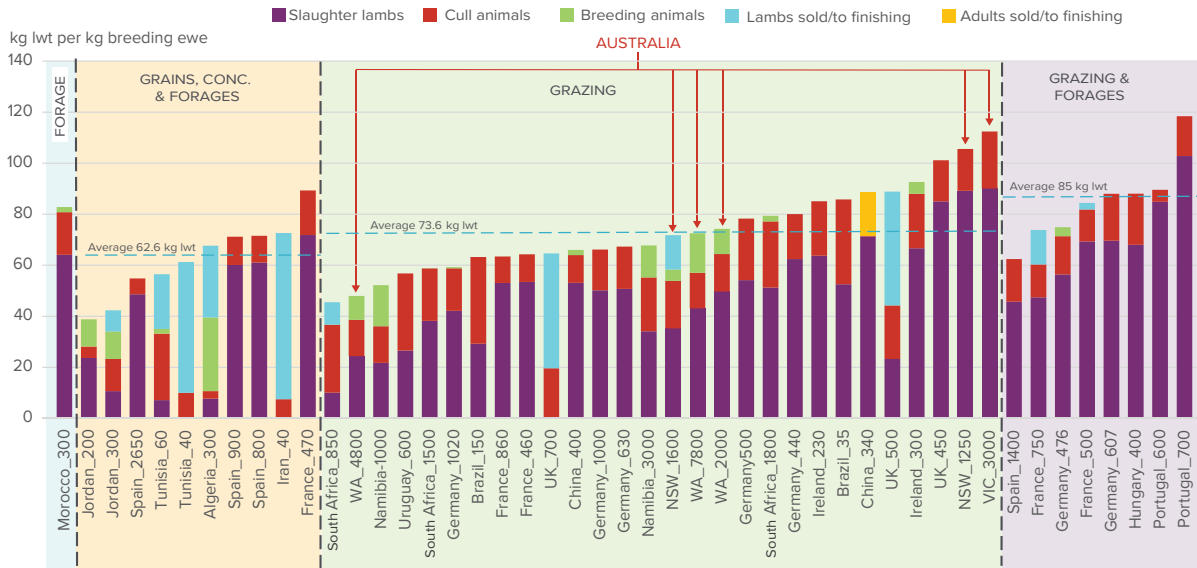
Farm Identification indicates number of ewes



The high rainfall grazing systems in Victoria (VIC_3000) and NSW (NSW_125) produce 62 and 78 kilograms of liveweight per ewe respectively, 18 and 34 kg more than the average of 44 kg lwt for grazing systems. The overall average is 42 kg lwt.

The weight of ewes varies between systems and Figure 13 shows the total liveweight sold per 100 kg ewe:

Figure 13: Total liveweight sold per kg breeding ewe (kg lwt per 100 kg ewe)

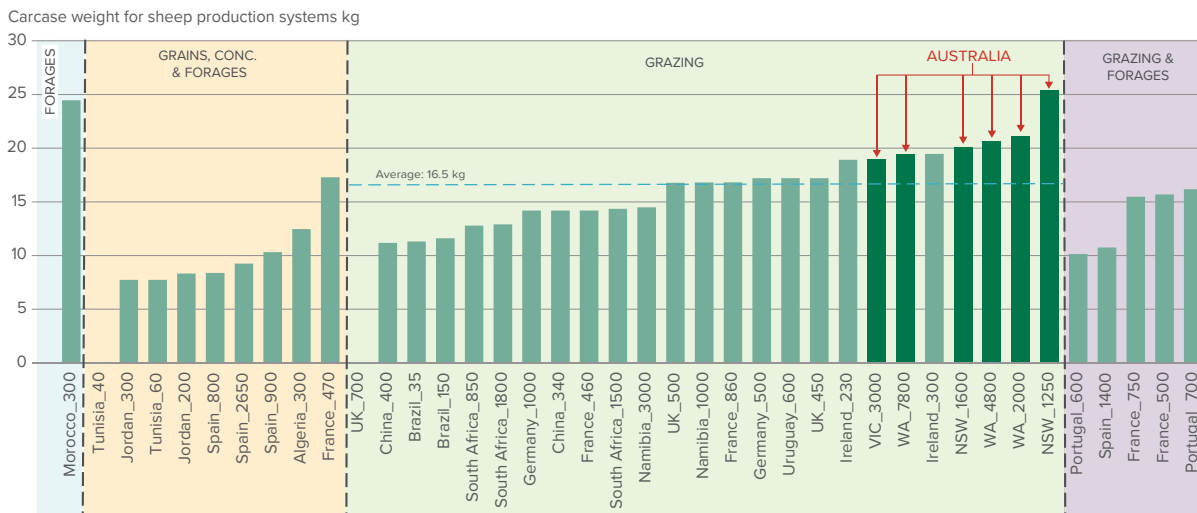


Source: agri benchmark typical farm data

Farm Identification indicates number of ewes

The comparison of carcass weights in Figure 13 show how Australian farms produce the heaviest lamb carcasses in comparison to the other agri benchmark countries and farms. Interestingly, Ireland is gradually increasing average lamb carcass weight which appears to be contributing to notable increases in productivity and profitability, although constrained by scale.

Figure 14: Carcass weights for lambs



Source: agri benchmark typical farm data

Farm Identification indicates number of ewes



China



Summary

In summary, Australian sheep farms continued their high level of financial performance in 2021 after two consecutive remarkable years, driven by high sheep meat prices and favourable seasonal conditions. Recovery from severe drought in 2019 was rapid and favourable seasonal conditions have continued, allowing for improvements in productivity. Prevailing environmental and market conditions since mid-2020 have resulted in a combination of lower production costs, higher animal performance and record high sheep meat prices during 2021. This has resulted in some of the highest levels of profitability reported for Australian sheep producers since monitoring started in 2013, and the recovery from low levels of profitability for some flocks severely impacted by drought (e.g. AU_1600 and AU_1250).

Australian farms remain low-cost sheep meat producers in 2021, achieving economies of scale with large size farms.

The productivity of Australian farms varies greatly depending on the land and climate. This is particularly evident in kilograms of meat produced per ewe, with one typical Australian farm producing more than any other AB farm in 2021, while production of other Australian farms was amongst the lowest.

Australian farms produce the heaviest lamb carcasses in comparison to the other AB countries and farms, whilst achieving similar daily growth rates.

Morocco



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