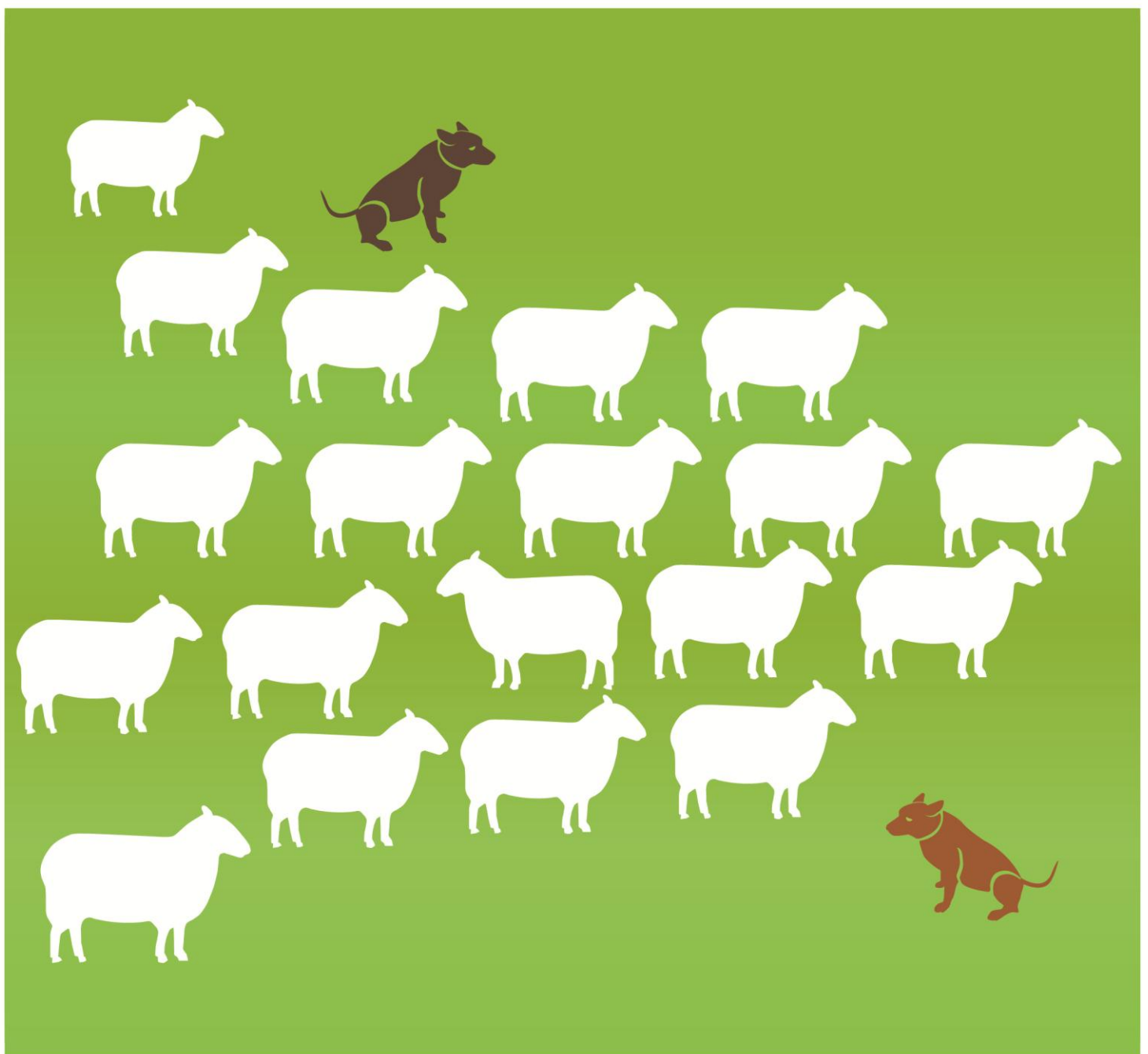


Sheep Industry Profile

December 2014



Victoria's Sheep Meat and Wool Industry

December 2014 Update

Key points

- This Sheep Meat and Wool Industry Profile provides an overview of the location, structure, production and performance of Victoria's sheep meat and wool industry.
- The sheep meat and wool industry is Victoria's third largest agricultural industry by value, with a gross value of agricultural production of around \$1,497 million in 2012-13. The gross values of sheep meat and wool production were \$923 million, and \$574 million, respectively.
- Victorian sheep and lamb numbers fell marginally by 1.3 per cent to 15.7 million head in 2013-14 after increasing by 10.4 per cent in the previous two years. Despite these recent increases, the current sheep population is one of the smallest since the 1940s.
- Victorian wool production has been in long term decline since the early 1990s, falling from 190,600 tonnes in 1990-91 to 70,500 tonnes in 2013-14.
- In contrast, Victorian sheep meat (lamb and mutton) production has increased by approximately 60 per cent over the same period.
- Victoria is currently Australia's largest lamb and mutton producing state, producing 207,100 tonnes of lamb, or 44 per cent of Australian lamb production, in 2012-13.
- Australia exported 438,000 tonnes of sheep meat in 2013-14, worth \$2,308 million.
- In 2013-14, Victoria exported around 184,000 tonnes of sheep meat, worth \$898 million.
- Despite the long term decline in Victoria's wool production, wool exports from Victoria increased in value from \$883 million to \$1,315 million between 2009-10 and 2013-14, a rise of almost 50 per cent.

Location of Victoria's sheep meat and wool growing farms

Sheep meat and wool production occurs across all regions of Victoria but is concentrated in the Warrnambool and South West regions (28 per cent of the flock), North West (32 per cent), Hume (9 per cent) and Bendigo (8 per cent) (Figure 1)¹.

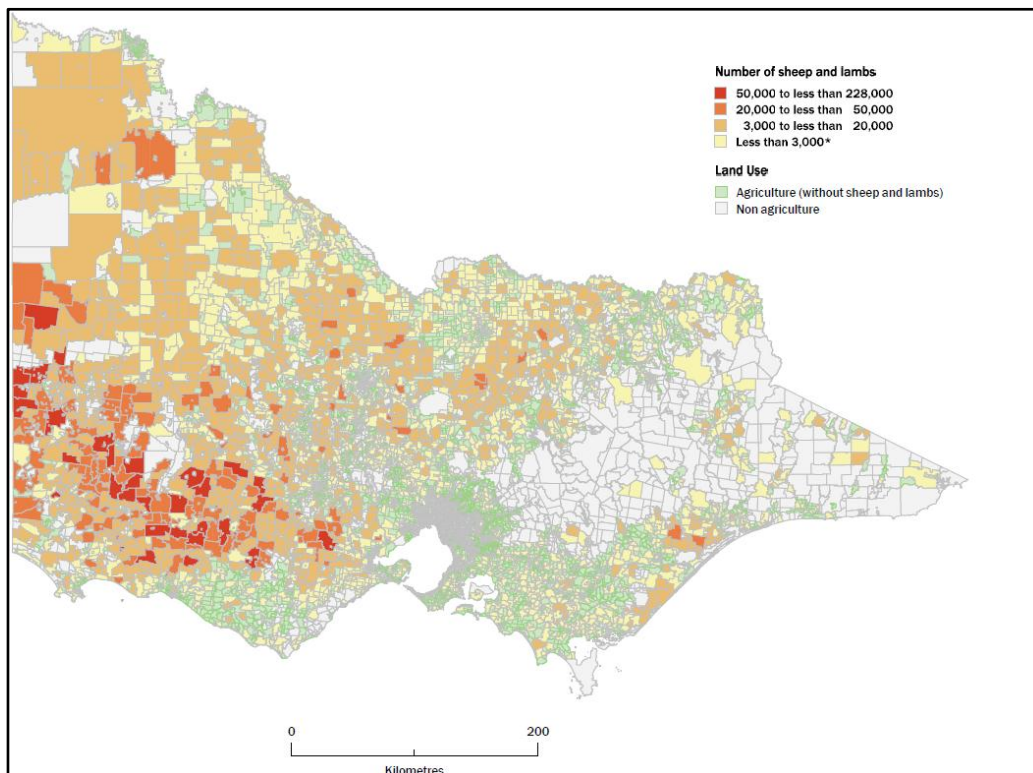
Structure of Victoria's sheep meat and wool growing industry

In 2012-13, there were 10,716 farms that recorded some form of sheep production on their properties². Victorian sheep farms are generally small and many have an estimated value of agricultural operations (EVAO) of less than \$100,000³. In 2010-11, approximately 58 per cent of specialised sheep farmers had an EVAO of less than \$100,000 and only 5.2 per cent had an EVAO of \$500,000 and above⁴.

In 2012-13, Victoria's sheep population was 16.1 million head, with a provisional estimate of the 2013-14 population being slightly smaller at 15.7⁵.

There has been significant adjustment in the industry over the last two decades, with the flock size falling by a third, from 23.4 million head in 1993-94 to 16.1 million head in 2012-13⁶. Sheep farm numbers have halved from around 22,000 in the mid-1980's. Over the same period there has been a gradual shift from wool to sheep meat production, particularly prime lambs. This is illustrated in Figure 2, which shows that while wool production declined in line with the fall in sheep numbers, lamb production increased. There also have been increases in the price received for lamb (Figure 3) relative to wool prices (Figure 4). These changes in meat and wool production, and meat and wool prices, have led to a change in the contributions of wool and meat products to the income of sheep enterprises.

Figure 1 – Victoria's sheep meat and wool growing regions⁷



Victoria's sheep meat and wool production

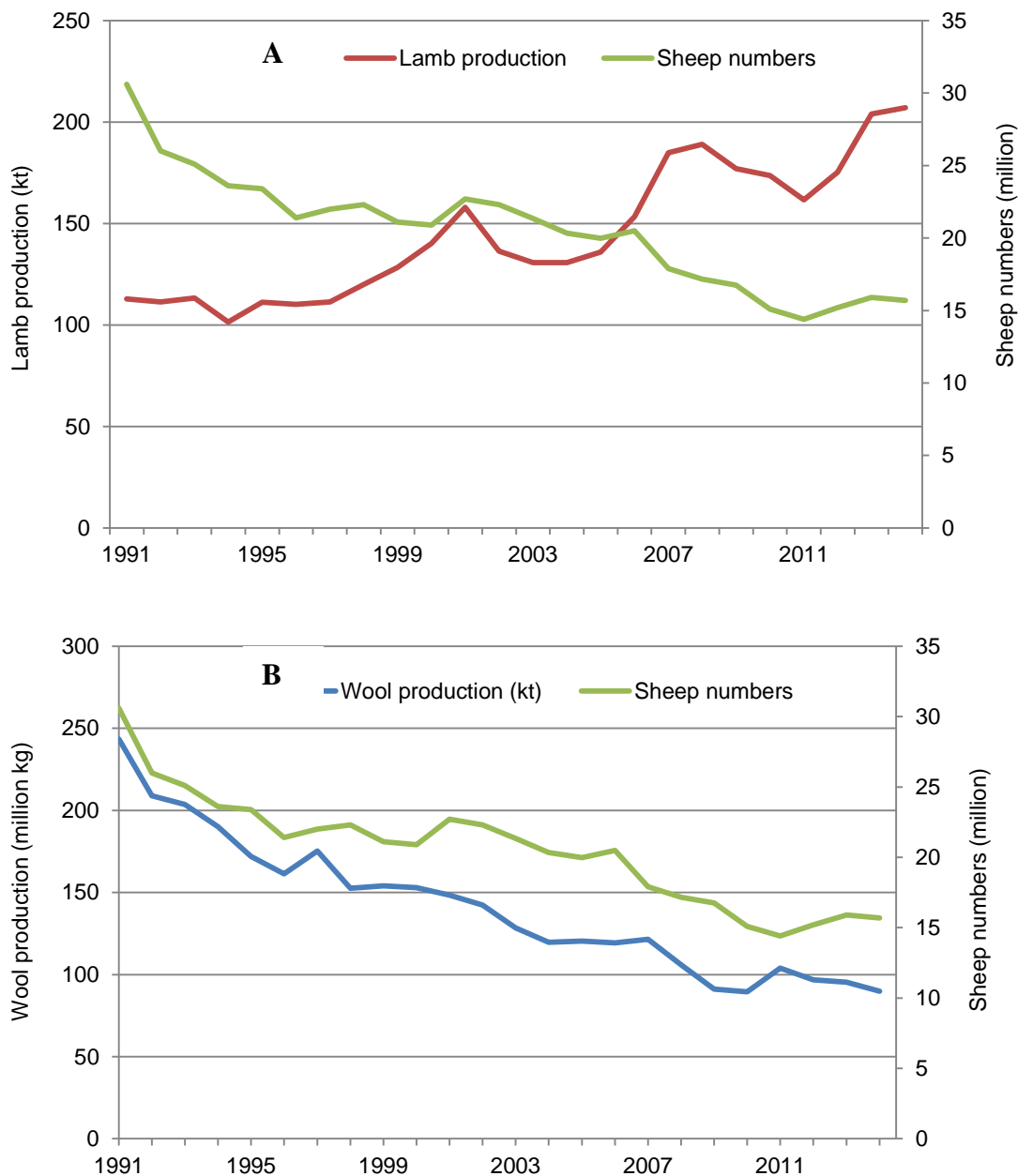
Victorian wool production fell from 190,600 tonnes in 1990-91 to 70,500 tonnes in 2013-14, its lowest level since 1990⁹⁹. The decline in Victorian wool production has generally been attributed to declining wool prices, particularly fine wool prices, and relatively better returns from alternative enterprises involving meat production and-or cropping¹⁰. Prices of fine wool (17 micron) declined briefly in recent years to less than 1,000 cents per kg, a level not reached since the late 1990s¹¹. In contrast, long term price trends for coarser wool grades have been stable or increasing (Figure 4). Farm enterprises that produce both wool and meat have benefitted from these recent price increases for coarser wool grades because these are the type of wool grades produced by sheep used for meat production.

The production of sheep meat (lamb and mutton) in Victoria increased by 59 per cent since 1989-90¹². Victoria is currently Australia's largest lamb and mutton producing state, with its 2013-14 production of 207,000 tonnes of lamb accounting for 44 per cent of Australian lamb production. Victoria also produced 78,800 tonnes of mutton, accounting for 35 per cent of Australian mutton production.

The gross value of production of Victoria's sheep industry (including both wool and meat production) in 2012-13 was \$1.5 billion or 13 per cent of the total gross value of agricultural production in Victoria¹³.

Figure 2 illustrates the contrasting trends in lamb meat and wool production. Lamb production has increased while wool production has declined. The increase in lamb production occurred despite declining sheep numbers. This reflects a change in the composition of sheep flocks, with an increase in non-merino sheep used for wool and meat production. The higher reproduction rates of non-merino sheep may have contributed to the increase in total sheep population size between 2011 and 2013.

Figure 2: Victorian lamb production (A) and shorn wool production (B) compared with sheep numbers¹⁴



Domestic and export demand for Victorian sheep meat and wool products

The domestic market is important for sheep meat producers with approximately \$2.0 billion being spent on sheep meat annually by consumers. On average, Australians consumed around 9.3 kg of lamb and 0.4 kg of mutton per person in 2013-14, a slight change from the previous year's consumption of 9.7 kg of lamb and 0.3 kg for mutton¹⁵. These changes reflect growth in export demand, particularly from Asia, the United States of America (USA) and the Middle East. The forecast increase in export demand is expected to increase its share of lamb production from 46 per cent in 2010 to 55 per cent in the current year and 58 per cent by 2020¹⁶.

The key export markets for fresh, frozen and chilled sheep meat have progressively changed from Europe to China, the Middle East and the USA. The key markets for Victorian exporters are now the USA, China, United Arab Emirates and Iran. In 2013-14, approximately 184,000 tonnes (shipped weight) of sheep meat was exported with an estimated value of \$898 million¹⁷.

Between 2009-10 and 2013-14 the value of wool exports increased by 49 per cent from \$883 million to \$1.32 billion. Exports of wool from Victoria also include some wool produced in New South Wales and South Australia.

The largest export market for Victorian wool is China, which accounted for 66 per cent of the value of Victoria's wool exports in 2013-14. In 2013-14, Victoria exported \$874 million worth of wool to China.

Although China is the largest volume buyer of Victorian wool, purchasing 52 per cent of the wool produced, overall animal fibre exports to China during the 2013-14 season were down from the previous year by 19,000 tonnes (15 per cent), or by \$82 million (9 per cent) in value. This decrease was due primarily to poor seasonal conditions for the first half of the selling season in the State's highest wool producing regions¹⁸. On average, 98 per cent of the animal fibre exported to China is wool. The volume and value of wool exports to China over the past 5 years are reported in Table 1.

Table 1: Victorian wool exports to China

	Value (\$A million)	Volume (kt)
2009-10	613	115
2010-11	845	130
2011-12	984	134
2012-13	956	144
2013-14	874	125

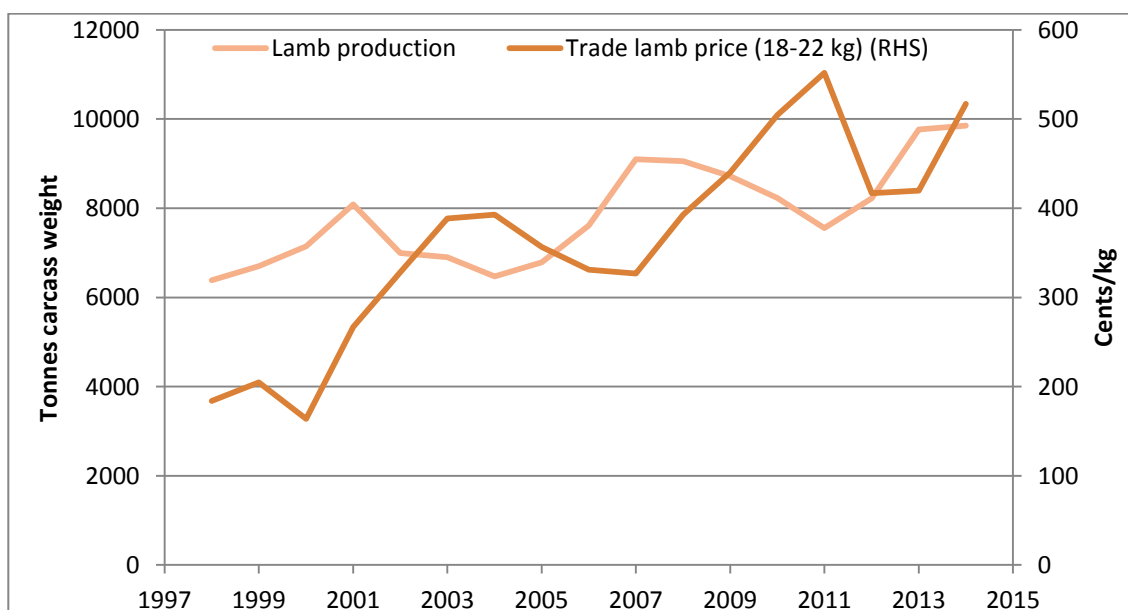
Source: DEPI 2014, Table 48.

Live sheep exports from Victoria in 2013-14 accounted for 1.3 per cent of the Victorian sheep flock. 2013-14 exports were 186,033 head, worth \$18.78 million¹⁹. This was a fall in exported sheep numbers of approximately 6 per cent compared with the previous year's exports of 198,149 head. Victoria contributed around 9 per cent of Australia's live sheep exports in 2013-14²⁰. Major markets for Victorian live sheep exports are Qatar, Kuwait and United Arab Emirates, with Portland or Geelong the ports of shipment.

Prices

Victorian trade lamb (18-22 kg carcass weight) prices have fallen in recent years from the record trade lamb price of 551.9 cents per kg reached in 2010-11 (Figure 3). Prices subsequently fell by almost 40 per cent to 419.6 cents per kg in 2012-13. Even larger falls occurred in mutton prices, from the 2011 peak of 449.5 cents per kg to 1932 cents per kg in 2012-13. More recently trade lamb prices have rebounded upwards, breaking the 500 cents per kg barrier.

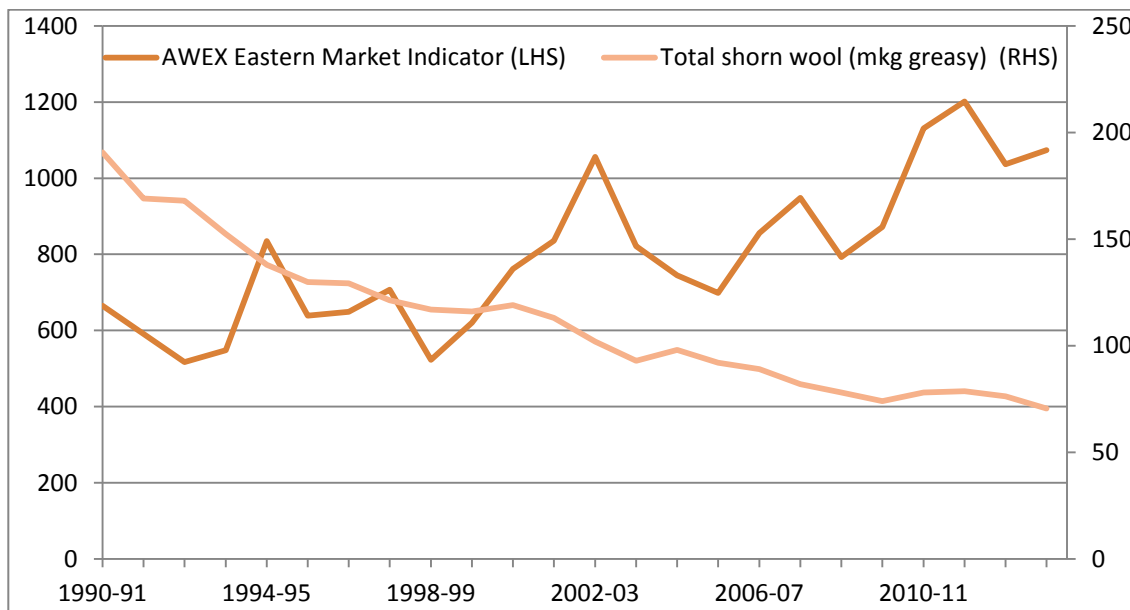
Figure 3: Victorian trade lamb price vs lamb production²¹



Over the past few years wool prices have defied the strong Australian dollar with the Eastern Market Indicator (EMI) for wool staying above the 1,000 cent per kg barrier (Figure 4). During that time, the EMI peaked at 1,436 cents per

kg and in more recent months has fluctuated between 1,100 and 1,200 cents per kg. As at the middle of November 2014, the EMI was 1,058 cents per kg.

Figure 4: Eastern Market Indicator (EMI) and Victorian Wool Production



Total factor productivity

Between the 1950s and the early 1980s, annual productivity growth rates for sheep related enterprises on a national or state level were estimated to be between 2-3 per cent²². There also was a period of strong growth in productivity following the collapse of the wool reserve price scheme in 1991 and associated changes in industry structure. These changes include a shift from wool to meat production and the departure of under-performing producers from the industry. Sheep industry productivity increased at an average rate of 1.4 per cent a year after the wool reserve price scheme collapsed, in contrast to declines in productivity growth in the 1980s associated with rapid expansion of wool production²³. Recent estimates show that total factor productivity growth for sheep specialists in Victoria has declined to 0.1 per cent per annum over the period from 1977-78 to 2011-12²⁴.

The decline in productivity growth has been caused primarily by prolonged and recurring droughts, below average seasonal conditions, low rates of technology adoption, reduced investment in research and development and the large number of relatively small farms in Victoria²⁵.

Recent and projected changes in sheep enterprise management are expected to result in increased productivity over the short term^{26,27}. These include improved nutrition and advances in animal breeding and genetics that have led to increased fertility (including higher rates of twinning), higher lamb turn-off rates and higher average slaughter weights²⁸. Further productivity increases are likely to flow from increased use of electronic animal identification technology (EID) in response to the growing demand for traceable lamb and mutton. A sheep EID system involves the use of an electronic ear tag or device that marks each animal with its own, individual identifying number. There are many potential flock and cost management benefits of EID for producers to utilise on the farm.

Employment on Victoria's sheep farms

In 2010-11, the Census of Population and Housing estimated the number of Victorians employed on sheep, sheep-beef cattle, grain-sheep or grain-beef farms to be approximately 11,828. Of these, 5,043 were estimated to be employed in the sheep farming industry. A further 431 were employed in shearing services²⁹.

Financial Performance of the Victorian Sheep and Wool Industry

Table 2 contains financial performance and profitability indicators for the prime lamb and wool industry from the Department of Environment and Primary Industries (DEPI) Livestock Farm Monitor Project (LFMP) for 2013-14.

The LFMP reports farm level production and profitability data for a mixture of wool and prime lamb producers in three regions in Victoria. Whole farm returns are displayed as the return on assets and return on equity, however these figures are from the entire LFMP sample which includes wool, lamb and beef producers.

In 2013-14, farm profitability and productivity was higher for the top 20 per cent of lamb and wool enterprises across all of the surveyed regions. The most profitable lamb and wool producers across all regions generally displayed a combination of higher productivity, lower cost of production and higher prices received.

Table 2: Wool and prime lamb financial performance and profitability indicators 2013-14

		Gippsland		North East		South West	
		Average	Top 20%	Average	Top 20%	Average	Top 20%
Wool Sheep	Net Wool Income (\$/kg)	11.58	11.68	11.30	12.50	11.52	12.41
	Sheep trading Profit (\$/kg)	0.54	13.31	5.14	3.69	4.27	4.03
	Cost of Production (\$/kg) ³⁰	16.52	27.89	15.69	12.13	16.83	15.11
	Variable costs (\$/kg)	8.88	16.62	8.22	7.44	9.45	9.08
	Earnings before Int/Lease	3.75	10.95	NA	NA	NA	NA
	EBIT (\$/EHA)	NA	NA	2.74	6.46	-1.37	2.97
Prime lamb	Lamb price received (\$/kg)	5.03	5.24	4.47	4.65	NA	NA
	Cost of Production (\$/kg)	4.74	3.28	4.06	2.31	4.95	3.43
	Variable costs (\$/kg)	2.12	1.41	1.74	1.57	2.43	1.65
	Earnings before Int/Lease	0.74	3.40	NA	NA	NA	NA
	EBIT (\$/EHA)	NA	NA	1.01	3.16	2.23	3.32
Whole farm	Return on assets (%)	1.2	3.1	2.0	6.0	2.2	4.8
	Return on equity (%)	-0.1	1.3	0.9	6.8	0.8	3.6

Source: Department of Environment and Primary Industries: Livestock Farm Monitor Project (LFMP) Results 2013-14. EHA refers to effective hectares which is total hectares minus that area of land which is of little or no value for livestock or crop production (e.g. house and shed area).

The top 20 per cent of wool producers surveyed in the south west reported an operating profit (excluding interest and lease costs) of \$142 per hectare for 2013-14, compared with \$215 per hectare in Gippsland, partly because of lower supplementary feeding costs, lower pasture costs and higher clean wool cuts per hectare.

Lamb producers obtained stronger average profits than wool producers during 2013-14. During 2013-14 the operating profit (excluding interest and lease costs) for the top 20 per cent of prime lamb producers in the South West was \$201 per hectare, a difference of \$59 per hectare compared to wool producers in the same area.

Government policy/regulation influences

In May 2012 DEPI announced the establishment of a new National (Southern) Red Meat Innovation Centre in Hamilton. Since that announcement, a \$1.75 million animal research house has opened at the Hamilton Red Meat Innovation Centre. The new facility will be used to study sheep and lambs and their growth responses to different feeds and forages as well as boost future on-farm production rates which will help support the red meat sector to increase productivity and profitability levels in coming years.

DEPI provides further assistance to producers by providing subsidised EID tags and assistance on how the tags can be used to increase productivity and profitability of sheep enterprises. Preliminary evaluations of the on-farm benefits of sheep EID tags indicated that the benefits of tags can substantially exceed their costs³¹.

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- ¹ Australian Bureau of Statistics (ABS), Agricultural Commodities, Australia, 2011-12 (Cat. No. 7121.0)
- ² ABS, Agricultural Commodities, Australia, 2012-13, (Cat. No. 7121.0)
- ³ Barr, N., *The changing social landscape of rural Victoria*, Department of Primary Industries (DPI), 2005
- ⁴ ABS, Agricultural Commodities, Australia, 2010-11 (Cat. No. 7121.0)
- ⁵ Source: Lionel Plunkett, Australian Wool Exchange (AWEX), personal communication
- ⁶ ABS, Agricultural Commodities, Australia, 2012-13 (Cat. No. 7121.0)
- ⁷ ABS, Based on AGS2011 Mesh Block Boundaries
- ⁸ Source: Lionel Plunkett, AWEX, personal communication
- ⁹ Australian Wool Innovation Production Forecasting Committee, Australian Wool Production Forecast Report, August 2014. Accessed October 2014 at: http://www.wool.com/Content/en-GB/Wool_Production_Forecast_AUG14.pdf
- ¹⁰ Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), Australian commodities, March Quarter, 2010
- ¹¹ Source: AWEX Current Statistics, accessed November 2014 at: <http://www.awex.com.au/market-information/current-statistics/>
- ¹² ABS, Livestock and Meat, Australia, August 2014 (Cat. No. 7218.0.55.001)
- ¹³ ABS, Value of Agricultural Commodities Produced, Australia, 2012-13 (Cat. No. 7503.0)
- ¹⁴ Source: Lionel Plunkett, AWEX; Australian Wool Innovation Production Forecasting Committee, Australian Wool Production Forecast Report, August 2014
- ¹⁵ Per capita consumption figures from MLA Australian sheep industry projections 2014 mid-year update
- ¹⁶ Per capita consumption figures from MLA Australian sheep industry projections 2014 mid-year update
- ¹⁷ Department of Environment and Primary Industries (DEPI), Victorian Food and Fibre Export Performance Report, 2013-14
- ¹⁸ DEPI, Victorian Food and Fibre Export Performance Report, 2013-14
- ¹⁹ Meat and Livestock Australia (MLA), Australian livestock export industry statistical review, 2013-14
- ²⁰ MLA, Australian livestock export industry statistical review, 2013-14
- ²¹ Source: Prices are average monthly values of the Eastern Standard Trade Lamb Indicator (ESTLI), sourced from MLA, accessed November 2014 at: www.mla.com.au/Prices-and-markets/Latest...and.../DownloadESTLI. Lamb production values, sourced from ABS Cat. No. 7218.0.55.001 - Livestock and Meat, Australia, Sep 2014
- ²² Villano, R., Fleming, E., Farrell, T. and Fleming, P., *Productivity Change in the Australian Sheep Industry Revisited*, School of Economics, University of New England, 2006
- ²³ Martin, P., Phillips, P., & Shafron, W. Australian farm survey results 2011–12 to 2013–14
- ²⁴ ABARES, Unpublished Total Factor Productivity data for the years 1977-78 to 2011-12
- ²⁵ DPI, Services to beef and sheep producers, Discussion draft, April 2010
- ²⁶ MLA, Prime lamb situation analysis, June 2010
- ²⁷ Martin, P., Phillips, P., & Shafron, W. Australian farm survey results 2011–12 to 2013–14
- ²⁸ Martin, P., Phillips, P., & Shafron, W. Australian farm survey results 2011–12 to 2013–14
- ²⁹ ABS, Census of Population and Housing, (Cat. no. 2604.0 - CDATEA Online)
- ³⁰ Excludes interest and lease costs
- ³¹ Elders Victoria Sire Evaluation Group (2014), *Bringing individual animal management and EID to the next level*, accessed December 2014, at: <http://www.whitesuffolk.com/media/news-events/DEPI%20Final%20Report%20EID%20June%202014.pdf>