



PROFITABILITY OF SHEEP ENTERPRISES IN SOUTHERN AUSTRALIA

Key points

- Fine wool ewes producing first cross lambs have recently been the most profitable enterprise, if run well.
- Changing enterprises has costs and risks.

Introduction

High sheep meat prices relative to wool are forcing many producers in southern Australia to rethink their traditional sheep enterprise. Recent studies by the Sheep CRC highlighted differences in profitability between sheep enterprises. This work also highlighted considerable scope for producers to do a better job of what they are currently doing within their existing enterprise. Computer simulations (GrassGro version 2.4.3) were used, as they are fast, inexpensive, can be changed readily with new circumstances and put useful figures on difficult to quantify enterprise changes.

What enterprises were compared?

The profitability of 14 sheep enterprises was compared at Rutherglen, Mortlake, Cowra and Naracoorte. The enterprises were:

- Wether flocks.
- Self-replacing Merino flocks (SRM), selling surplus lambs at 4 and 12 months.
- Dual purpose flocks (DP) with Merino ewes joined to terminal sires, selling first-cross lambs as 4-month-old stores/light trade lambs, or lambs kept and finished on grain to reach 44kg.
- Prime lamb flocks (PL) with first-cross ewes joined to terminal sires, selling second-cross lambs as 4-month-old stores/light trade lambs, or lambs kept and finished on grain to achieve 44kg or 53kg.
- In addition, within each Merino enterprise, either two or three Merino strains (superfine, fine and medium) were compared.

What were the profitability differences?

The results for Rutherglen are shown in Table 1 (see page 2) however, the same trends were observed at the other three locations. The fine wool (19 micron) dual-purpose Merino enterprise was consistently the most profitable. It was followed by prime lambs, then self-replacing Merinos, with Merino wethers the least profitable at all four locations and two commodity price scenarios (1999–2003 and 2003–2004).

An exception was when a large price premium existed for superfine (17.5µm) wool and the superfine self-replacing Merino enterprise was as profitable as the fine wool dual-purpose enterprise. These results are consistent with farm benchmarking studies that indicate dual-purpose flocks have performed better than wool or prime lamb flocks from 1998 to 2004 (Holmes, Sackett and Associates 2005).

Why did these results occur?

Dual-purpose and prime lamb enterprises produced more meat per hectare than the self-replacing Merino enterprises and correspondingly received more meat income. This was because more joined ewes could be run, as ewe replacements were purchased. The fine (19µm) and medium (21µm) dual-purpose enterprises had a higher wool income than prime lamb enterprises, due to higher value of wool and slightly higher wool production per hectare.

For the prime lamb enterprise to be more profitable than a dual-purpose enterprise, substantially more meat per hectare has to be produced. At Rutherglen, average weaning percentage used for the dual-purpose enterprise was 96% and 127% for prime lambs. For the prime lamb enterprise to be more profitable, a weaning rate of at least 140% is required.

The wether enterprises produced more wool but less meat per hectare than all of the ewe enterprises and had the lowest profitability.

Many producers would consider that turning-off Merino lambs at 4 months is unrealistic, but it was included here for comparison. Keeping Merino lambs and selling the surplus at 12 months is a more realistic and less risky option.

However, there may be a meat price discount. In the comparison, a 30% price discount was used based on National Livestock Reporting Service data. However, if Merino yearlings receive the same meat price as Merino lambs, then this enterprise would be marginally more profitable than the Merino lamb enterprise.

Table 1. Gross margins (\$/ha) for different sheep enterprises at Rutherglen

Enterprise	Lamb turn-off	Merino strain	Time of lambing	Stocking rate (wethers or ewes/ha)	Wool kg/ha	Meat kg/ha	GM (1999-2003) \$/ha	GM
Wether		Superfine		13	40	154	459	230
Wether		Fine		12	42	158	282	223
SRM	12 mths	Superfine	Oct	9.5	38	334	569	459
SRM		Fine	Oct	8.5	38	333	398	429
SRM		Medium	Oct	8	39	344	311	423
SRM	4 mths	Fine	Aug	10.5	32	325	422	427
SRM		Mediium	Aug	10	33	339	373	429
DP		Fine	Aug	10.5	33	489	584	662
DP		Medium	Aug	10	34	492	514	658
DP		Fine	July	9.5	30	503	583	676
DP		Medium	July	9	31	487	508	652
PL			Aug	8.5	26	537	481	542
PL			July	8	24	543	487	556
PL			July	7	21	552	515	596

SRM - self-replacing Merinos. DP - dual purpose. PL - prime lamb.

Timing of lambing refers to the start of the month, the date by which the majority of the lambs were born.

What were the main assumptions?

Weather data from 1965 to 2002 and typical soil types, with well-fertilised, improved pastures, were used. For all comparisons, the stocking rate and time of lambing was optimised. Mean prices for meat, wool and replacement ewes over the two time periods 1999–2003 and 2003–2004 were used. During the latter period the premium for fine wool was less and meat prices were higher than in 1999–2003. Other production assumptions were commercially realistic.

What are the profit drivers?

Many changes can be made to an enterprise. Profit drivers are those changes that really make a difference to profitability.

Quantity of product per hectare

The amount of meat and wool produced per hectare had the greatest effect on gross margin and income. In turn, stocking rate had the greatest effect on meat and wool produced per hectare. To keep supplementary feed costs to a minimum, it is critical to optimise time of lambing before optimising stocking rate.

Lambs weaned per ewe

Increasing weaning percentage had a smaller impact on meat produced per hectare, than increasing stocking rate. Enterprises that are understocked would gain greater benefit from increasing the number of ewes per hectare. Where the stocking rate is already at an optimum, an increase in weaning percentage could be profitable, even allowing for the necessary small decrease in the number of ewes carried. Weaning percentage was more important for the prime lamb enterprise than for the dual-purpose enterprise. For the prime lamb flock to generate a similar gross margin to the dual-purpose flock, it required a weaning percentage around 40 to 50% higher.

Price of product

For the Merino enterprises, the price paid for wool was an important profit driver under the mean 1999–2003 price scenario, when there were large premiums for wool less than 19 micron. Even though the price premiums in 2003–2004 were smaller, there was still a small benefit from producing finer wool.

What are not key profit drivers?

These changes will not improve profitability.

Sale weight of lambs

Keeping lambs longer or lambing earlier in autumn or winter to increase sale weights reduced the number of ewes that could be run and the amount of meat and wool produced. Increasing lamb weight by feeding grain could be profitable when grain is only \$150/tonne, particularly for the prime lamb enterprises.

Time of sale

Apart from lower prices for lamb sold in spring, there is no consistent trend for monthly lamb prices. However, from 1999 to 2004, price premiums for time of sale or heavier carcass weights have not been high enough to justify changes. It is more profitable to lamb at the optimum time (late winter or spring depending on the location), run more ewes and turn off store lambs at the end of the growing season than to:

- (a) lamb in autumn/early winter and sell at the end of the growing season to obtain a higher price per kilogram, or
- (b) lamb at the optimum time but retain lambs over summer/autumn and sell in winter to get a higher price.

For option (a) to return the same meat income per hectare, prices for heavier lambs (20 to 22 kg carcass weight) would have to be 1.4 times higher than the five-year mean of 303 c/kg for December (viz. 424 c/kg). For option (b), lamb prices would have to be 1.3 times higher than the five-year mean of 292 c/kg for June for carcasses weighing 16 to 18 kg (viz. 380 c/kg).

Is changing your enterprise essential?

Changing enterprises has risks and costs. The simulations and farm financial benchmarking both highlight that there is considerable scope for producers to improve the performance of their current enterprise before they rush into changing enterprises. A well-run wether enterprise can be more profitable than a poorly run fine wool dual-purpose Merino enterprise.

Stocking rate coupled with time of lambing, are the big drivers of profitability. Weaning percentage is of secondary importance. Focusing on increasing carcase weight or receiving seasonal price premiums for meat can reduce profitability. Taking advantage of short-term trading opportunities can be important.

What are the risks associated with changing enterprises?

The price paid for ewes had a large effect on gross margins and the risk associated with changing enterprises. However not all of the risks are financial. Other issues to consider are:

- What are your personal goals? What do you enjoy doing?
- Do you prefer to breed your own ewe replacements rather than to buy them? For example, to reduce the risk of disease, exposure to high prices and to have more control of the genetics.
- Are some of your paddocks more suited to running wethers?
- Is the enterprise suitable to the growing season? For example, would you be better turning-off store lambs rather than trying to finish lambs?
- Are there disease risks? For example, in some high rainfall areas crossbred ewes will cope better than Merinos.
- How do you think price relativities between meat and wool will change in the future?

What are the take home messages?

- A dual-purpose Merino (meat-wool) enterprise offers producers resilience against changes in commodity prices, but producers should still pay close attention to the genetic merit of the ewes they purchase or breed.
- There are opportunities for all sheep producers to improve the performance of their current enterprise before they rush into changing enterprises.
- Producers should contemplate changing to first-cross ewes with caution as they may not be better off, particularly with high ewe prices or low weaning percentages.
- Before changing enterprises first test the changes either by doing your own calculations or with your consultant. The information in the analysis will assist you in making valid comparisons.
- Enterprise change is not an all or none decision and can involve only part of the flock.

Further information

Your consultant or local department of primary industries extension officer can provide information on local pasture growth patterns. The full report on which this note is based (Analysis of the profitability of sheep wool and meat enterprises in southern Australia) can be found at the Sheep CRC web site:

<http://www.sheepcrc.org.au/management/enterprise-planning-and-management.php> and click on the 'Reports, Articles and Presentations' tab at the bottom of the page.

Acknowledgments

This work is based on the modeling work and report by Lisa Warn (principal author) and John Webb Ware, Mackinnon Project, University of Melbourne, Libby Salmon and John Donnelly, CSIRO Plant Industry and Doug Alcock, NSW DPI.

Holmes Sackett and Associates (2005) AGINSIGHTS 2005. Knowing the Past: Shaping the Future (2005).