



## Sheep CRC Practical Wisdom Notes

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<b>Author:</b>	Lisa Warn, University of Melbourne; John Webb Ware, University of Melbourne; Libby Salmon, CSIRO; John Donnelly, CSIRO; Doug Alcock, NSW DPI
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## OPTIMISING STOCKING RATE - THE KEY TO INCREASING PASTURE UTILISATION AND PROFIT

### Key points

- Increasing pasture utilization will increase productivity and profitability.
- It is critical to match pasture demand of your enterprise to pasture growth.
- Risk management planning and pasture assessment skills are also required.

### Introduction

In southern Australia, only 20 to 40% of the pasture produced is eaten by stock. Increasing the use of the pasture you are already growing is the most effective way to increase the productivity and profitability of most sheep enterprises. Stocking rate is the biggest driver of pasture utilisation, however, producers will be questioning, "How far can we push stocking rate and still have a profitable and sustainable enterprise?" Selecting a stocking rate needs to take into account economic, production and environmental risks. Understanding the risks, the probability of them occurring, and having a plan to deal with them is essential.

### What are realistic pasture utilisation targets?

Utilising every kilogram of pasture produced is not possible. Trampling will waste some and a significant proportion must be retained to provide carry-over feed and to be converted to litter to maintain soil health. Your aim should be to convert as much pasture as is economic into wool and meat, while maintaining more than 70% ground cover and adequate litter (1000–1500 kg DM/ha). Computer simulations (GrassGro version 2.4.3) at Rutherglen, Mortlake, Cowra and Naracoorte conducted by the Australian Sheep Industry Cooperative Research Centre, indicates that trying to utilise more than 50 to 55% of pasture grown may be unrealistic. Be aware that the shorter the growing season the more difficult it is to achieve these rates.

### What is the most critical step in optimising pasture use?

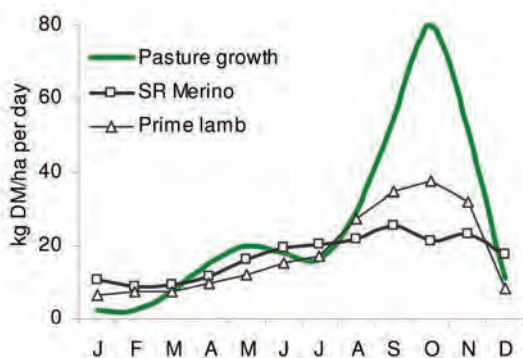


Figure 1. Feed demand for a self-replacing Merino flock and a prime lamb flock compared with average pasture growth rates at 50% pasture utilisation.

The most critical step in optimising pasture is to ensure the period of maximum livestock demand is aligned to the period of maximum pasture growth. This involves understanding your average pasture growth curve and making strategic decisions about what animal system fits this curve best, in terms of enterprises, time of lambing, time of livestock sales (Figure 1) and stock numbers (Figure 2).

The self-replacing Merino flock lambs in late September and surplus lambs are sold at 12 to 13 months. The first-cross ewes in the prime lamb flock lamb in early August and lambs are sold at 4 months of age. Both enterprises are stocked at an average annual stocking rate of 17 DSE/ha.

Figure 1 highlights the impact that different sheep enterprises have on the pasture at different times of the year. In this example, with the self-replacing flock lambing later, the probability of supplementary feeding ewes in winter will be lower than for the prime lamb flock. At high levels of pasture utilisation, there will be different risks associated with running different enterprises. A prime lamb or dual-purpose (Merino ewes joined to terminal sire) enterprise that purchases replacement ewes and sells all lambs at the end of the growing season has more flexibility to reduce grazing pressure than a self-replacing flock or wether flock.

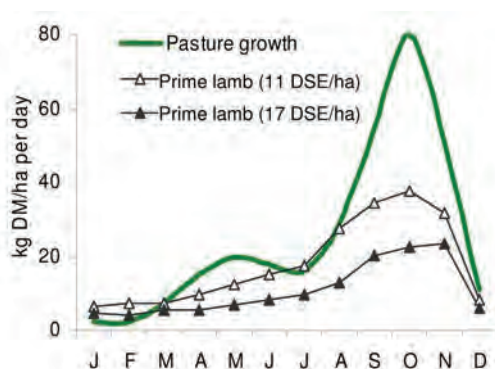


Figure 2. Feed demand for a prime lamb flock stocked to utilise 30 or 50% of pasture grown (11 DSE/ha and 17 DSE/ha) compared with average pasture growth rates.

Although the shapes of the two feed demand curves are similar, the flock stocked to utilise 50% of pasture would be more profitable and would still achieve your other production and environmental aims.

### Is a risk management plan needed?

The major risks associated with increasing pasture utilisation are poor pasture persistence, barer paddocks (in late summer/autumn), poorer stock health, more supplementary feeding and more drought management issues. All of these risks can be managed.

Whilst average pasture curves assist with strategic decision making and planning to manage the risk of seasonal variation in pasture supply, you will need to plan to make various short to medium term decisions relating to the management of pastures and stock. Being flexible with stock numbers and reviewing numbers during the year will allow you to optimise utilisation and manage risk. How much flexibility you have to increase or decrease stock numbers depends on your enterprise, value of stock and if there is a disease risk if agisting or trading stock.

You will also need good pasture and stock assessment skills, with training often provided by your state department of primary industries. Regularly monitoring pasture levels and stock condition allows you to assess if you are on track to meet your production targets and to take early action if you are not.

A plan to cope with seasonal variation should be written. It should identify known risks and trigger points (a date or a measurement) for action. A brief example is shown in the table on page 3.

	Trigger points	Options/actions
Average Autumn	Hasn't rained by mid-April	Buy more grain (before price goes up). Monitor stock condition.
Poor Autumn/late break	Hasn't rained by mid-May	Monitor stock. Supplementary feed. Use nitrogen fertiliser to boost pasture growth.
Failed Spring - drought risk	Poor Spring rain, poor subsoil moisture. Low water levels in dams.	Purchase more grain. Sell some stock. Put remaining stock in drought lot when ground cover falls below 70%.

#### What are the take home messages?

- Increasing the use of pasture already grown is the most effective way to increase the production and profitability of most sheep enterprises.
- Stocking rate is the biggest driver of pasture utilisation.
- At higher levels of utilisation there will be different risks associated with running different enterprises.
- At higher levels of utilisation you will need improved pasture and stock assessment skills and a plan to cope with seasonal variation, but you will have the increased profitability to more than pay for it.

#### Where do I go for further information?

Your consultant or local department of primary industries extension officer can provide information on local pasture growth patterns and risk management planning.

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 [www.sheepcrc.org.au](http://www.sheepcrc.org.au).

To take full advantage of the changes, increased pasture and animal monitoring skills and extra planning is required. State departments of primary industries often run courses such as Prograze, which provide these skills.

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