

### Split Joining reduces risk and provides options



#### What is Split Joining?

In southern NSW, there are two common ways that ewes are managed.

A conservative option is to mate ewes in summer to lamb in mid winter. The lambs have sufficient time to reach marketable weight before pasture growth slows in summer.

However, this system supports low stocking rates as the peak feed demand of the ewes coincides with low pasture production in winter.

A more aggressive system is to mate Merino ewes to lamb in September, matching feed demand with feed supply. However, if spring rains fail, this system is at risk due to high supplementary feed requirements and low returns from sale of stock.

Split joining means mating a proportion of a Merino flock to terminal sires in summer to provide prime lambs born in mid winter. The remainder of the flock is joined to Merino rams in autumn for spring lambing. This means that highest feed demand fits with the expected increase in pasture growth in spring.

An important reason for using Split Joining is to add flexibility and reduce risk in all-ewe operations. With all-ewe flocks and spring lambing, there are few options to sell stock if spring cuts out early. Spring born lambs and lactating ewes will be of limited sale value.

However, with Split Joining, in a dry spring, July born lambs can be weaned and sold as store lambs and if necessary, ewes sold after weaning. Early sales can significantly reduce overall feed consumption and allow later lambs to be maintained through to acceptable weaning weights, protecting the key Merino genetics.

#### Actions summary

- ▶ **Split joining reduces risk and provides options to deal with variable seasons.**
- ▶ **In an average spring, lambs can be kept on to heavier weights utilising spring pasture.**
- ▶ **In a short spring, Winter drop lambs can be sold early as store lambs, in extreme conditions the ewes can also be sold.**
- ▶ **Split joining allows targeted feeding and management of the winter lambing ewes and a uniform line of sale lambs.**
- ▶ **Dry ewes from the summer joining can be rejoined in autumn to lamb in spring.**





Sheep in lucerne

## Implementing Split Joining

The guidelines below allow terminal lambs to be born from mid July with the Merino lambs born from late September. However, lambing times to suit anticipated pasture growth in your particular region should be used.

For the terminal lambs, 60% of the Merino flock is joined from mid February for a July lambing. A two to three week joining allows for one ovulation cycle and ensures a tight lambing and that lambs will reach sale weights at a similar time. However, some ewes will not have fallen pregnant and the mob needs to be scanned to identify dry ewes.

Rams need to be in good condition and ready to work, use 1.5% + 1 to maximise ewes joined given the short joining period. Experience at the Wagga EverGraze Proof Site suggests about 80% of ewes will become pregnant over a 14 day mating.

Forty five days after the end of joining, ewes are scanned to determine dry, single, twin ewes. Dry ewes can be re-mated with the later lambing flock or culled.

Singles and twins can be treated the same until the last month of gestation. However leading up to lambing, twin bearing ewes need to be given priority for high quality pasture and provided with sheltered paddocks for lambing.

The remaining 40% of ewes and dry ewes are joined to Merino sires in April for a September lambing. A four week joining is recommended to keep the lambing compact but allow ewes two ovulations. Ewes can be scanned again after 45 days and dry ewes should be culled from the flock.

At first glance, this program may appear complicated. However, it can be kept relatively simple providing ewe age groups are combined and common shearing and weaning times are used in normal seasons. For example, in a normal spring, all lambs could be weaned in late November – December and all ewes shorn in summer-autumn. Effectively, the only difference is that some ewes are mated and managed separately from February. From scanning in April, there will be some additional mobs if ewes are separated into

single and twin lambing groups but dry ewes can be placed back with the flock mated for September lambing. Also, supplementary feeding can be targeted to specific groups, (ie twinning July lambing ewes rather than feeding all ewes) reducing supplementary feeding costs.

## Split Joining - Selecting ewes to join to terminal sires?

It is important to select ewes to join to terminal sires that will provide a high weaning percentage and high production/ha. There is a strong relationship between condition score at mating and lambing percentage as shown in the Lifetime wool project ([www.lifetimewool.com.au](http://www.lifetimewool.com.au)) and ewes should be greater than condition score (CS) 3 at mating in February.

Classing ewes at weaning into 2 groups, (< CS 3, CS 3 or greater) will identify which ewes need access to better pasture to gain condition prior to the next joining. Summer active perennials, such as lucerne, are an option to improve condition score of ewes.

Genetic improvement in the Merino flock also needs to be considered. Older and ewes culled for wool faults can be selected to join to terminal sires allowing ewes with better wool characteristics to be joined to Merino rams.

Selecting terminal sires with low/negative EBV's for birth weight, correct shoulder and smaller conformation can reduce the risk of lambing difficulties. The overall capability of the Merino to deliver bigger terminal lambs needs to be considered. Some small frame Merinos and maiden ewes are not suitable to join to terminal sires.

## Split Joining – balancing risk and profits?

The Wagga Wagga EverGraze Proof Site is evaluating production systems to increase profits from perennial pastures for the high rainfall zone of southern NSW.

At the experimental site, the pasture base consists of areas of phalaris (60%), tall fescue (20%), and lucerne (20%).



*Weighing ewes to identify which need better pasture*

Ewes rotationally graze the pastures to make best use of the feed available at different times of the year and are supplementary fed grain when pasture is not able to meet requirements. The mid-winter stocking rate for all systems is 13 DSE/ha. The actual stocking rate (ewes/ha) of the different systems varies with later lambing and split joining systems running more ewes as they have lower feed requirements in July.

Four sheep systems are being compared;

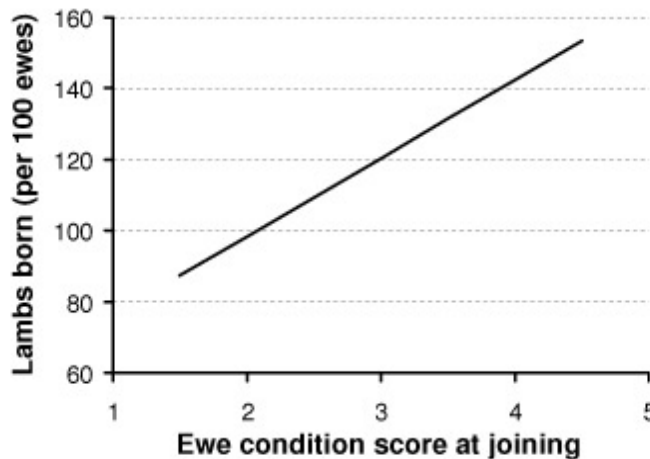
- Self replacing Merino - winter lambing; All ewes joined in February for July lambing as is common practise in the region. Stocking rate 5.6 ewes/ha to allow for lactating ewes in July.
- 50% terminal 50% Merino - Spring Lambing; 50% of ewes mated to merino sires and 50% to terminal sires in April for September lambing. Stocking rate 9.8 ewes/ha.
- 50% terminal 50% Merino - Spring Lambing high lucerne; 50% of ewes mated to merino sires and 50% to terminal sires in April for September lambing but with twice the area of lucerne and less tall fescue and phalaris. This system should provide more high quality feed in late spring to finish lambs. Stocking rate 9.8 ewes/ha.
- 50% Terminal 50% Merino - Split Joining; 50% of ewes mated to terminal sires for July lambing and 50% to Merinos for September lambing. The decision when to sell terminal lambs is based on spring pasture growth. If favourable then lambs can be retained longer to heavier weights. Stocking rate 7.1 ewes/ha.

Prior to the experiment starting, computer simulations were used to estimate the likely production and profits from the four systems. Assuming 120% weaning and average prices and returns for meat and wool, the estimated Gross Margins for the systems were;

- Self replacing Merino - winter lambing – \$300/ha
- 50% terminal 50% Merino - Spring Lamb – \$490/ha
- 50% terminal 50% Merino - Spring Lambing - High lucerne - \$490/ha
- 50% Terminal 50% Merino - Split Joining – \$440/ha

These figures suggest that the later lambing systems are the most profitable but are more variable with dry springs greatly reducing lamb returns. The Split Joining system had slightly lower Gross Margins but with less variability between years.

### Ewe condition score at joining and number of lambs born



[www.lifetimewool.com.au](http://www.lifetimewool.com.au)



David Hewlett

David Hewlett produces fine Merino wool at his 800ha property “Blackburn” near Yass in NSW.

He started using Split Joining to capitalise on the demand for cross bred store lambs. David joins Merino ewes to Dorset rams four weeks ahead of the main merino flock. The ewes selected for joining to the Dorset’s are the older ewes and culls that are not wanted in the merino flock. The cross bred lambs are normally sold each year at the end of November. David has been very happy with the performance of the Merino ewes, weaning 110% from the Merino ewes mated to Merino rams and 115% from Merinos mated to terminal sires.

“By lambing a few weeks earlier than the rest of the flock, the cross bred lambs gain a little more weight and present a little heavier at the store sales,” David said.

Pregnancy scanning is undertaken in May and June to identify the dry, singles and twin bearing ewes. David said early and late lambing ewes are separated to allow more efficient supplementary feeding. In addition, single and twin lambing ewes are allocated feed according to their needs.

“Dry ewes are culled before the winter feed deficit starts to bite, so valuable pasture growing in winter is utilised by productive sheep,” he said.

In an average spring, the pastures are better utilised due to the higher stocking rate of heavier lambs. “In a dry spring, the ewes joined to the Dorset can also be sold at weaning, saving feed for the more valuable younger ewes,” David said. “Having two lambing times allows priority to be given the ewes that will give the best response to the supplements,” he added.

The split joining system provides David with options to deal with varying seasonal conditions.

### Authors

**Michael Friend**, Senior Lecturer in Livestock Production,  
Charles Sturt University,  
Wagga Wagga, NSW.  
Email: [mfriender@csu.edu.au](mailto:mfriender@csu.edu.au)

**Jim Meckiff**, Advisory Officer,  
Department Primary Industries,  
Cootamundra, NSW.  
Email: [jim.meckiff@dpi.nsw.gov.au](mailto:jim.meckiff@dpi.nsw.gov.au)

**EverGraze on line: [www.evergraze.com.au](http://www.evergraze.com.au)**

For further details of EverGraze and to find out about activities in your area go to [www.evergraze.com.au](http://www.evergraze.com.au) or write to Geoffrey Saul, National EverGraze Coordinator, 98 Leura Lane, Hamilton, VIC 3300.

### EverGraze is a Future Farm Industries CRC, MLA and AWI research and delivery partnership



Established and supported under the Australian Government’s Cooperative Research Centres Program. Through the implementation of innovative research outcomes and new technologies, the Future Farm Industries CRC is developing new and adaptable farming systems for Australia that will improve livestock and cropping industries productivity, offer new woody crop options, make better use of limited rainfall and create more diversity in landscapes.

© EverGraze, 2008

#### Disclaimer

The information provided in this publication is intended for general use, to assist public knowledge and discussion and to improve the sustainable management of grazing systems in southern Australia. It includes statements based on scientific research. Readers are advised that this information may be incomplete or unsuitable for use in specific situations. Before taking any action or decision based on the information in this publication, readers should seek professional, scientific and technical advice.

To the extent permitted by law, the Commonwealth of Australia, Future Farm Industries CRC, Meat and Livestock Australia, and Australian Wool Innovation (including their employees and consultants), the authors, the EverGraze project and its project partners do not assume liability of any kind resulting from any persons use or reliance upon the content of this publication.