

Making More From Sheep



A joint initiative of



Feasibility Study of Teenage Merino Mums

A three year study in Victoria looking at the feasibility of lambing Merino ewes as 1-year-olds is in its final stages of completion. The research undertaken by James Whale, a farm business consultant with Mike Stephens & Associates, has involved two on-farm trials in central Victoria, pasture modelling of 1-year-old lambing production systems and an economic analysis of adopting the practice in commercial Merino flocks in south eastern Australia.

The research, being undertaken through the University of Melbourne with support from the Sheep CRC, set out to answer three main research questions:

1. What is the reproductive potential of the Australian Merino when managed to lamb as 1-year-olds in natural breeding programs?
2. What additional feed resources will be required to manage ewes in 1-year-old lambing systems according to best-practice liveweight profiles?
3. Considering the additional management costs, what production/price scenarios are necessary for 1-year-old lambing systems to be more profitable than conventional breeding (ewes managed to have their first lamb as 2-year-olds)?

1-year-old lambing system trials were run on two commercial enterprises located via

Marnoo and Serpentine in central Victoria. In both trials ewes weaned in excess of 70% lambs (ewes lambled/ewes joined x 100) following natural mating at 8-9 months of age. Trial ewes were managed to achieve specific body weight targets of 45 kg at first joining, 60 kg at the point-of-lambing and 54 kg at weaning.

Conflicting results were observed between sites on the impact that pregnancy at first mating had on reproductive rates at subsequent mating at 19-20 months. Comparisons at subsequent scanning between pregnant and non-pregnant ewe groups from previous joining revealed higher reproductive rates in ewes previously pregnant at one site (138 vs. 118%) whilst reproductive rates were lower in previously pregnant ewes at the other site (129 vs. 144%). This was an interesting result considering that at both sites pregnancy status groups were run together in a single mob over the duration of the trial.

The computer program GrassGro was used to predict the additional quantities of supplementary feed required to manage ewes to lamb as 1-year-olds compared with conventional practice of first lambing as 2-year-olds. Simulations were run for three different production locations in south eastern Australia using forty years of historical weather data to test the impact of various pasture types and stocking rates on marginal supplementary feeding requirements.

Simulated outputs from GrassGro were used to predict the Marginal Rate of Return on

additional supplementary feed investment necessary to support 1-year-old lambing system adoption. A range of supplementary feed prices, weaning rates and lamb values were tested in the economic analysis.

At a low supplementary feed price of \$150/t (as-fed Barley 13.0 MJME/kg) the probability of increased annual profits with 1-year-old lambing system adoption was greater than 90% for nearly all combinations of weaning rate (30, 50 and 70%) and weaner lamb value (\$40, \$60 and \$80/head) tested at each production location (Hamilton, Wedderburn and Wagga Wagga). At a supplementary feed price of \$250/t numerous combinations of weaning rate and weaner lamb value were predicted to deliver higher annual profits in 90% of years in the different production locations. At \$350/t, achieving higher profits in 90% of years occurred in some stocking rate/pasture type scenarios across the three production locations tested but only when high weaning rates were combined with high weaner lamb values. Across all production locations, the greatest Marginal Rates of Return were achieved when 1-year-old lambing systems were adopted on lightly stocked Lucerne-based pastures.

The study suggests that Australian Merinos are capable of successfully lambing as 1-year-olds with the potential for increased production capacity provided appropriate management. The economic analysis of adopting 1-year-old lambing indicates many factors will influence the marginal profitability of the practice. Seasonal variation had large impacts on the additional quantities of supplementary feed needed to support 1-year-old lambing systems at each production location. Comparative profitability will also be

influenced by existing stocking rate policies, the type of pastures available for young ewes to graze, supplementary feed price, livestock values and reproductive performance.

Summary points for producers considering joining young ewes include:

- Preparation for joining ewe lambs starts at weaning age (if not before!), ewe weaners need to grow at 150-200 g/day to reach the minimum recommended liveweight of 40 kg at 6-8 months of age. Ewe weaners less than 40 kg should not be joined and should be drafted out prior to the mating period.
- Pregnancy scan to identify dry, single and twin ewes. Dry ewes should be separated out and placed on restricted nutrition. Multiple bearing ewes will benefit from additional supplementary feeding when necessary to meet energy requirements.
- Target live weight at point-of-lambing is 60 kg live weight. This is a critical weight to ensure adequate growth of ewes prior to lambing. Achieving this weight target also makes it much easier to achieve an appropriate live weight at subsequent joining.
- Regular liveweight monitoring is the key to successful 1-year-old lambing! This is the only way to determine with confidence whether ewes are on track to achieve targets. Supplementary feeding programs may need to be implemented at short notice and should be planned for well in advance.

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