

# Seasonality of Lamb Supply – Have We Interpreted the Price Signals?

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This analysis was commissioned by the Sheep Industry Business Innovation project as part of its work around understanding the barriers to increasing supply of lambs in WA and a full report will be available at [www.agric.wa.gov.au/sibi](http://www.agric.wa.gov.au/sibi) after the Sheep Updates.

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## Background

The lamb production system in WA is characterised by a large supply of lambs finished on green feed during spring and then a reduction in supply through summer, autumn and winter. This pattern of supply reflects the cost of finishing the lambs, with it being cheapest finishing on green feed and progressively more expensive as the season progresses. Higher prices are offered for out of season lamb, however, historically these premiums have not been sufficient to entice farmers away from the sucker lamb production system.

The change in profitability from delaying the turn-off of carryover lambs is a trade-off between a numbers of factors:

The change in price received for the lamb

The amount and quality of feed required for backgrounding and finishing the lamb and the timing of the demand. Delaying the turn-off, spreads the energy demand for the growth of the lamb and this reduces the average diet quality required, however the delay increases the total amount of energy required because of the extended period of time over which there is a maintenance requirement.

Husbandry cost and labour: The expense and workload associated with retaining animals for later turn off includes both the extra duration of feeding and monitoring required and the extra husbandry operations that need to be carried out.

Wool Income: Delaying the sale of carry-over lambs increases the quantity of wool grown.

Death Rates: Retaining lambs on farm for longer increases the chance of deaths.

This paper addresses 2 questions:

1. What prices are required later in the season for producers to breakeven with turning off lambs earlier?
2. How do the breakeven prices compare with the historical prices?

The analysis was carried out with the MIDAS suite of wholefarm optimisation models, using the Great Southern and Central Wheat belt regional versions. The MIDAS model is suited to this analysis because it can evaluate the trade-off between the extra feed required by the later carry over lambs and the lower feed quality.

The merino genotype was a fast growing, medium wool sheep and surplus ewe were mated to a terminal sire. It is the turn-off of this 1<sup>st</sup> cross lamb that is the focus of this paper and the results are presented as a break-even price for the carryover lamb. The break-even price was calculated to provide the same profit as the sucker lamb system.

In each region, 4 turn-off times were compared for each of 2 lambing times. The turn-off times were a sucker at about 4.5 months, and a carry-over lamb at either 7, 9 or 11 months. The analysis was done assuming that breeding, backgrounding and finishing is all done on the same farm and that the profit from varying the turn-off time of the lambs is captured by the one farm. In practice it is possible that this will be spread across 2 or even 3 farms, however, the total profit to be shared will be as for the single farm (minus some transaction and transport costs). The allocation of the profit between the farms will be determined by the price of the store lamb.

The post-weaning nutrition of the carryover lambs was managed to achieve a turn off weight of 48kg yielding a 22kg carcass. The later carryover lamb had a period of backgrounding with a target growth rate just above maintenance then finished with growth rates above 150g/hd/d. The growth paths include a period of fast growth post weaning on green feed and this period is much shorter for the later lambing.

## **Results and Discussion**

The system selling the maximum possible draft of lambs as suckers off their mothers at weaning is the lowest cost system. The carryover systems require a higher price in order to breakeven and the later that lambs are turned off the higher the breakeven price with an increase of between \$0.30 and \$0.35/kg DW/month required. In the Great Southern the price of lamb in May/June would need to be between \$5.50/kg DW and \$5.80/kg DW for farmers to be enticed to produce carry-over lambs at this time rather than producing suckers at \$3.75/kg to \$4.25/kg in Oct/Nov/Dec. In the Central Wheatbelt the range in the prices required to breakeven is slightly greater, \$5.35 to \$6.35, but the prices are comparable and cluster together at a level above the historical market average (Figure 1).

In all scenarios the increase in the breakeven price is greater than the average increase observed in the market over the last 5 to 10 years. This is consistent with producer decisions of not having widespread adoption of the late carry-over lamb system and focussing instead on sucker lamb production.

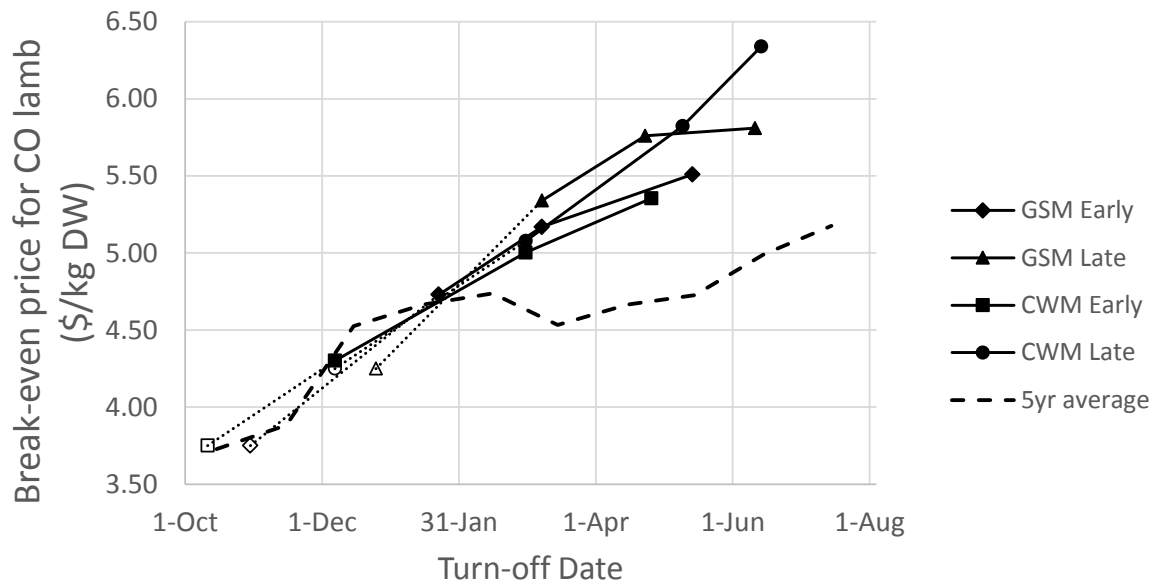


Figure 1 BE lamb price required for the Great Southern & Central Wheatbelt regions for each lambing time and the historical average price received for each turn-off time

The increase in the breakeven prices with later turn-off is greater on farms with fewer crops (up to \$0.50/kg/month) because less stubble is available to background the lambs that are being carried over. These results indicate that crop residue handling systems, such as chaff carts, which increase the accessibility of crop residue to animals and thereby increase animal performance, are likely to reduce the increase in breakeven prices required. This is an area that needs more evaluation.

### Conclusions

This analysis indicates that a price increase of \$0.30 to \$0.35/kg DW/month is required in order for farmers to make equal profit from turning off lambs later. This is greater than the 5 year average of \$0.16/month during the period 2010 to 2015. This result, and the seasonal turn off pattern that is observed in the WA lamb industry, both indicate that to entice more carryover production that a larger seasonal difference in price is required.

Furthermore, a larger price increase per month than that calculated may be required to achieve practice change on farm because of the risk associated with carrying the lambs longer. The risks include both production and market risk. The production risk includes risks associated with animal health and increased death rates or reduced rate of liveweight gain in the feedlot. The market risk includes risks associated with the price of grain required for

feedlotting and also the price received for the lamb. This later risk could be reduced if processors introduced a strong forward pricing mechanism that farmers believed and could plan their production around. In the absence of a forward pricing mechanism farmers will require much larger premiums, but it is difficult to calculate the level.