

# What value is a Lamb?

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## ABSTRACT

In order to calculate the profitability of strategies aimed at increasing lambing percentage it is necessary to have an accurate estimate of the value of extra lambs. Calculations done using the MIDAS model show that the value of an extra lamb can vary between \$12 and \$49 depending on the flock type and prices received. Lambs are more valuable in a flock producing cross-bred prime lambs when meat price is high and least valuable in a wool producing flock when the meat price is low. Wool price and grain price have very little impact on the value of an extra lamb.

## AIMS

There are a number of strategies aimed at increasing lambing percentage that farmers are implementing or considering implementing. In order to calculate the profitability of these strategies it is necessary to have an accurate estimate of the value of extra lambs (increased whole-farm \$/extra lambs). This paper describes calculations done using the MIDAS model to examine the value of extra lambs for a range of prices and for a range of flock types.

## METHOD

The calculations were done using the Great Southern version of the MIDAS model (1). The features of MIDAS that make it suited to this task are:

- The model includes the value of production of the whole flock and accounts for changes in flock structure that result from changes in lambing percentage.
- The model includes the impact of pregnancy and lactation on the value of the wool produced by ewes.
- The model uses a feed budget for the whole flock to calculate optimum stocking rate and level of supplementary feeding required. This feed budget includes the increase in energy requirement of the ewes for pregnancy and lactation when lambing percentage is increased.
- The feed budget also includes the energy required for backgrounding and finishing any lambs that are sold.

The model was setup with the 4 flock types outlined in table 1 and each flock was analysed over 7 price scenarios. A 'standard' price was selected for each of wool, meat and grain (Table 2), the price level selected represents a possible medium term outlook price. A 'low' and 'high' price scenario for each commodity was calculated that was 25% lower or higher than the standard for that commodity and using the standard prices for the other two commodities.

Table 1: Flock types examined in this analysis

Abbreviation	Description of flock
Specialist Wool	Specialist wool producing flock, all ewes mated to merino rams wethers are sold as store lambs or as shippers at 18 months of age. Surplus ewes sold as hoggets.
Wool + MPL	As for Specialist Wool except a draft (33%) of the larger wether lambs are sold as merino prime lambs.
SRF with TS	A self replacing merino flock with surplus ewes mated to a terminal sire for first cross prime lamb production.
Specialist Meat	A specialist meat producing flock, with all ewes mated to a terminal sire for first cross prime lamb production. Replacement ewes are bought in at 18 mo.

Table 2: Prices used in this analysis (sensitivity analysis explored prices  $\pm$  25% of these values).

Wool	\$5/kg greasy sweep the board for a 21u clip
Meat	Lambs \$2.50/kg (Store \$36/hd, MPL \$48/hd, XB \$59/hd), CFA Ewes \$35/hd
Grain	NPR Wheat \$200/t, Barley \$205, Canola \$360

For each of these flock types and price scenarios the profitability was calculated with each of a low and high fertility (number of ewes pregnant per ewe joined), low and high prolificacy (number of lambs

born per ewe pregnant) and low and high lamb survival. The resulting increase in profit was divided by the number of extra lambs weaned and the 3 values were averaged. This means the value reported is an average for extra lambs being achieved from more ewes pregnant, more ewes having multiple births and fewer lamb deaths.

## RESULTS

For each price scenario extra lambs are most valuable in flocks that produce first cross prime lambs (Table 3). Extra lambs are least valuable in specialist wool flocks, and are of intermediate value in a wool + merino prime lamb flock. The value of extra lambs is only slightly affected by wool and grain prices but is very sensitive to meat price. The cost of having an extra lamb, as calculated from the difference between the sale price of a lamb and the calculated value of an extra lamb is between \$19 and \$22 per head for the different flock types (standard prices). This value varies up or down by \$5 for the high and low meat price scenarios because of differences in optimum stocking rate and feed utilisation between price scenarios.

Table 3: Value (\$ whole-farm profit/extra lamb) of extra lambs for each flock type and price scenario (value was the same in the range 80-130% lambs weaned)

	Specialist Wool	Wool + MPL	SRF with TS	Specialist Meat
Standard	17	25	38	37
Wool – Low	18	26	38	39
High	16	24	35	39
Meat – Low	12	14	29	28
High	23	37	47	49
Grain – Low	17	24	37	37
High	18	26	38	38

## CONCLUSION

Meat prices are currently very high which increases the value of extra lambs and increase the incentive for farmers to improve reproductive rate in their flocks. But in order for farmers to decide whether it is profitable to implement any strategies to increase reproductive rate these results need to be combined with calculations of the cost of the strategies and the increase expected.

It is complicated to calculate the true value of extra lambs because of difficulties calculating the cost associated with the extra energy required by the ewes for pregnancy and lactation. These calculations with the MIDAS model indicate that the cost of raising a lamb to sale age is approximately \$20/hd. This rule of thumb could be used by producers to calculate a value for extra lambs on their property based on the average net sale price of their lambs.

## KEY WORDS

Lambing percentage, economics, MIDAS

## ACKNOWLEDGMENTS

This work was funded by the Lifetime Wool project. The Lifetime Wool project was initiated as a cooperative project between the Department of Primary Industries, Victoria and the Department of Agriculture of Western Australia. Since, 2001 it has become a National project funded by Australian Wool Innovation Limited with on-farm experimental sites in all the main wool producing states.

**Paper reviewed by:** Chris Oldham (WA Department of Agriculture)

## REFERENCES

(1) Young J.M. (1995) MIDAS Model of an Integrated Agricultural System – Model and Documentation for the Great Southern version. CLIMA. 1995.