

EVALUATION OF STRATEGIES FOR IMPROVING WOOL QUALITY

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Economic evaluation of new strategies to improve raw wool characteristics is necessary so that researchers are aware of the impact of their work on farm profitability and farmers can decide whether to adopt the strategies. The strategies often impact on many raw wool characteristics but previous analyses have dealt with only some of these eg Doyle *et al.* (1991) examined staple strength (SS) and fibre diameter (FD) and ignored staple length (SL) and proportion of mid breaks (PMB).

Recent analyses show that a combination of FD and predicted hauteur (PH) consistently explain greater than 80% of the variance in the auction price of raw wool (J Stanton and L Coss pers. comm.). This means that changes in SS, SL and PMB can be valued by examining their impact on the PH of the raw wool. In this paper we outline an approach for evaluating strategies that manage wool quality using a whole farm model which includes both FD and PH of wool. This approach accounts for the impact across the whole flock and values the changes in feed demand throughout the year.

Our approach was to:

- i) Calculate the cost of implementing the four strategies using the Great Southern (GS) version of the MIDAS model (Morrison *et al.* 1986; Young 1995).
- ii) Calculate the increase in profit that would occur if the PH of wool was increased by 1mm. These calculations were also done using the GS MIDAS model. A range of levels of payment for PH were examined including the average and the lowest and highest levels that occurred during the 92/93 and 93/94 wool selling season at Fremantle (J Stanton and L Coss pers. comm.). The initial PH was assumed to be low and this maximises the price response to increased PH.
- iii) Calculate the increase in PH that is necessary to cover the cost of each strategy by dividing the costs calculated in step 1 by the increases in profit calculated in step 2.
- iv) Compare the increases calculated in step 3 with experimental results.

The strategies examined were:

S1 - Supplementary feeding of sheep starting at pasture senescence.

S2 - Changing flock structure from 56% ewes to 39% ewes.

S3 - Feeding more supplement over the break of the season.

S4 - Increasing the average liveweight of the animals through the year by 7.5 kg.

Table 1. cost of implementing strategies to improve hauteur and the necessary increase in predicted hauteur to cover this cost

Strategy	Cost (\$/DSE)	Necessary increase in PH to break even (mm)	
		Average	Range
S1	3.50	22	14 to 39
S2	3.40	21	14 to 38
S3	1.75	11	7 to 19
S4	5.45	34	22 to 61

To cover the costs of each strategy substantial increases in hauteur are required (Table 1). Such increases are greater than the current expectations from these strategies. Therefore strategies need to be cheaper or the premium for longer PH wool needs to increase. This analysis could be improved when more data are available to predict the impact of the strategies on hauteur.

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