

THE EFFECT OF INCREASING THE TIME SPENT AT THE BIRTHSITE ON LAMB SURVIVAL IN A FLOCK OF HIGH FECUNDITY (*FEC^b*) SOUTH AUSTRALIAN MERINO EWES

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Lamb survival in highly fecund Merino ewes carrying the Booroola *Fec^b* gene is low (Kleemann *et al.* 1990), and is a major factor limiting acceptance of the genotype by producers in Australia. The present study investigated the effect of deliberately increasing the time spent at the birthsite on maternal behaviour and lamb survival in highly fecund South Australian Merino ewes.

Multiparous highly fecund South Australian Merino ewes were inseminated into the uterus with fresh semen 51 h following removal of a progesterone pessary (Repromap, 60 mg) and intramuscular injection of 400 i.u. of PMSG (Pregnenol). Ewes were allocated at random to 2 groups from within litter size categories (2, 3) determined by real-time ultrasound. Ewes were observed continuously during lambing in 2 adjacent 2-ha paddocks containing green clover/grass pasture 3-5 cm high. Treated ewes were penned at the birthsite for 6 h following birth of their last lamb. The 'separation' test (Putu 1988) was performed between 48 and 60 h after birth and lamb survival was recorded at 1 and 7 days of age.

Table 1. The effect of penning ewes on the birth site on time (s) taken for ewes and lambs to reunite in the separation test, and on the proportion of lambs surviving

Values are least-squares means \pm s.e. (number of ewes or lambs are in parentheses)

Litter size:	Time to reunite (s)		Lamb survival between day 1-7	
	2	3	2	3
Penned	30.3 \pm 27.7(11)	92.3 \pm 26.5(12)	0.95 \pm 0.09(21)	0.68 \pm 0.07(34)
Control	48.5 \pm 27.7(11)	107.9 \pm 24.5(14)	0.82 \pm 0.10(17)	0.69 \pm 0.08(29)

Time spent on the birthsite by control and penned ewes was 217 \pm 38 and 496 \pm 36 min, respectively. Penning at birth did not reduce time for the ewes and lambs to reunite in the 'separation test' ($P > 0.05$), neither was lamb survival improved between days 0-1 and 1-7 ($P > 0.05$). Ewes with triplets took 2-3 times longer to reunite with all lambs than did ewes with twins ($P < 0.05$). Mortality between days 1-7 amongst triplets was high ($P < 0.05$) compared with twins. We conclude that maternal behaviour and lamb survival in highly fecund South Australian Merino ewes was not improved by artificially increasing time on the birthsite.

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