

RELATIONSHIP BETWEEN NEONATAL MORTALITY AND  
MOTHER RECOGNITION BY 12 HOUR OLD MERINO LAMBS

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Lambs born as twins suffer a much higher rate of mortality than singles during the first days of life. One cause is failure of the ewes and their twins to remain together during the two days post-partum. Direct observation indicates that separation is largely due to the ewe moving away and leaving one lamb behind (Stevens et al. 1982). However some studies indicate a role of the lamb in post-partum separations (Stevens et al. 1984) and recently Nowak et al. (1987) have shown that lambs can recognise their dams as early as 12 hours after birth. This paper reports on the relationship between mother recognition by 12 h old Merino lambs and mortality in the first week after birth.

Ewes were observed 24 h/d in a paddock of 0.5 ha in order to record the exact time of birth of each lamb. Twelve hours after birth, the lambs were tested in a pen for 5 min for their ability to seek ewes and discriminate between their own and alien mothers in a two choice situation (Nowak et al. 1987). The time spent near either ewe was recorded. After the tests the ewes and their lambs were moved to an adjacent paddock and survival of lambs was checked daily during the first week post-partum.

Table 1 Performance of 12 h old lambs in relation to litter size, birth weight and survival at 7 days.

		Time (s) spent with either ewe ± S.E.	Time (s) spent with the mother ± S.E.	Birth weight kg ± S.E.
Singles, survived (N=39)		205.0 ± 16.7 <sup>a</sup>	114.9 ± 14.8 <sup>a</sup>	3.81 ± 0.14 <sup>a</sup>
	died (N=2)	183; 277	52; 277	3.50; 4.44
Twins, survived (N=56)		186.2 ± 13.1 <sup>a</sup>	124.1 ± 12.2 <sup>a</sup>	2.98 ± 0.07 <sup>b</sup>
	died (N=14)	115.9 ± 29.4 <sup>b</sup>	66.2 ± 24.6 <sup>b</sup>	3.29 ± 0.07 <sup>b</sup>

Means within a column with different subscripts are sign. diff. ( $P < 0.05$ ).

Of all the lambs tested, single lambs spent more time with both ewes than did twins and this was related to an effect of birth weight. However the time spent with their own mothers was not significantly different between singles and twins. In lambs that survived, no significant differences appeared between singles and twins. In twin born lambs, those that survived beyond 7 days had spent significantly more time with either ewe in the test than lambs that died. Also they had spent a much higher proportion of this time with their mothers, showing that not only were they more attracted to post-parturient ewes, but also that they could better recognise their mothers. In this study survival in twins was not related to birth weight.

These results show that the ability of newborn twin lambs to recognise their dams soon after birth is related to survival during the neonatal period. The reason why lambs perform differently is unknown. This study however suggests that the behaviour of the lamb plays an important role in survival.

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