Title: Genetic and environmental parameters for lambing and neonatal behaviour in Merino lines divergently selected for ewe multiple rearing ability

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Data were recorded for lambing behaviour of approximately 1000 Merino ewes lambing over a 10-year interval from 1993 to 2002. The resource population was divergently selected from the same base population since 1986, either for (H line) or against (L line) maternal multiple rearing ability. Line differences (P < 0.05) favoured H line ewes for length of parturition and maternal cooperation score. Heritability was estimated at 0.17 ± 0.04 for length of parturition, 0.11 ± 0.04 for maternal cooperation score and 0.20 ± 0.04 for the interval ewes remained on or near to the birth site. A small service sire effect for length of parturition in ewes amounted to 0.03 ± 0.02. Maternal cooperation score was genetically related to the time spent on or near to the birth site (0.53 ± 0.18). Genetic divergence between lines was detected in all three traits. These results and the obtained parameter estimates indicate that selection for improved multiple rearing ability was feasible in paddock-reared sheep flocks.

Keywords: selection, lamb survival, maternal ability, breeding values


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