

# The Facilitation of Shelter Use by Sheep<sup>1</sup>

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In Australia inclement weather contributes to losses of new-born lambs and recently shorn sheep. Lamb neonatal mortality has been estimated to be at least 20 percent (Sheep CRC 2008; Kelly 1992) and in a longitudinal study in the New England district of NSW Alexander et al. (1980) reported that provision of forced shelter reduced such losses by 10 percent. This same study showed that ewes were only attracted to shelter if shorn two weeks prior to lambing and little has been done subsequently to develop alternative strategies to attract animals to shelter. Cold weather conditions also contribute to losses in adult sheep that have been recently shorn, as sheep cold tolerance is largely based on wool length. In Western Australia, one week post-shearing mortality rates can range from 17 – 90% (Holm Glass et al 1991). Again, there have been no recent studies examining means of attracting sheep to shelter as an alternative to forced shelter provision. This PhD research aims to examine use of shelter by sheep and alternative means of shelter attraction.

Study A – This study aims to determine sheep preference for visual and auditory cues that may provide a means of attracting sheep to shelter during inclement weather. Forty-four eight-month old ewes were introduced to lupin grain food rewards and subsequently divided into four groups (n=11). Sheep were then trained to individually approach one of three cues (visual, auditory, visual + auditory) or no cue (control) for a food reward. Once successfully trained the sheep were tested in a 'T' maze to determine the successfulness of training. Initial results show between 67-70% of the sheep are responding correctly to cues after 8 days of food reward training. This test will be repeated to explore issues of short-term and long-term memory.

Study B – This study aims to investigate large flocks (300-400) of lambing ewes and their use of varying shelter designs existing on two commercial properties on the Northern Tablelands, NSW over 3 lambing seasons. The two properties are adjacent to each other with similar husbandry practices, topography and with a variety of shelter options. Two paddocks per farm will have 5 randomly chosen ewes fitted with GPS collars post-shearing (6 weeks pre lambing). This will provide continuous observation of sheep movements and utilization of shelter areas until removal of collars at lamb marking. Weather stations and temperature loggers have been located throughout the paddocks to provide localized measures of temperature, wind speed and precipitation that can be correlated to paddock and shelter use by the flocks.

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Sheep CRC – Cooperative Research Committees, (2008). By G. Hinch, accessed February 21, <http://sheepcrc.org.au/index.php?id=1241>

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