Shelter does not Increase Survival of Twin Lambs Born during Mild Winter Weather

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Lambing in southern Australia often coincides with winter weather that reduces Merino twin lamb survival (Kleemann & Walker, 2005), with shelter increasing twin lamb survival by up to 30% (Alexander *et al.* 1980), but ewes often do not seek the shelter provided (Lynch and Alexander, 1980). This experiment investigated whether twin-bearing Merino ewes lambing on pasture with rows of mallee trees as shelter would have more lambs alive at marking than those lambing on pasture alone and if lambing ewes on a crop of oats as edible shelter would further improve the survival of their twin lambs to marking.

Five hundred and twenty twin-bearing Merino ewes were stratified at day 140 of pregnancy into three groups according to age, live weight (mean of 58 ± 2.6 kg) and condition score (3.6 ± 0.16) at joining. Lambing took place in July 2006 at Broomehill (340 km SE of Perth, W.A.). The season was extremely dry with the property receiving only 35% of the 45-year average rainfall for May and June resulting in feed-on-offer (FOO) being low and variable at the start of lambing (Table 1). Consequently all ewes were supplemented with grain to meet their requirements. Up to 26 June (day 140 of pregnancy) all ewes were fed 300 g/h/d of lupins and on this day they were also fed 50 g/h/d of barley grain. The amount of barley fed was slowly increased to 350 g/h/d by 6 July (day 150 of pregnancy) by substituting barley for lupins. Barley alone was fed at 350 g/h/d for 10 days into lambing and then reduced to 200 g/h/d and held at this level for 20 days until lambing finished. The number of live lambs from each of the six paddocks was counted at marking on 14 August. The 58 mm of rain during the 30 day lambing was similar to the 20 year average, but most days were sunny and warm.

Table 1: Survival to marking and weaning and live weight at weaning for twin lambs from Merino ewes grazing pasture, pasture with mallee trees (shelter) or an oat crop (edible shelter) over a 30 day lambing

Treatment	Stocking rate DSE/ha	FOO kg/ha (sem)	% Survival to marking (sem)	% Survival to weaning (sem)	Weaning weight kg (sem)
Pasture 1	8.0	552 (241)	80	78	22.4
Pasture 2	8.9	459 (183)	88	87	24.9
Pasture	**8.4**	**505 (160)**	**84 (4.3)**	**82 (4.3)**	**23.6 (1.23)**
Shelter 1	8.0	426 (36)	81	80	20.0
Shelter 2	8.0	498 (80)	77	73	21.9
Shelter	**8.0**	**462 (44)**	**79 (2.2)**	**76 (3.8)**	**20.9 (0.94)**
Edible shelter 1	8.0	597 (165)	74	74	22.8
Edible shelter 2	8.9	881 (257)	91	91	21.4
Edible shelter	**8.4**	**739 (172)**	**83 (8.4)**	**83 (8.9)**	**22.1 (0.73)**
Mean	**8.3**	**552 (88)**	**82 (2.7)**	**72 (3.0)**	**22.2 (0.67)**

The survival of twin lambs to marking (lambs marked as a percent of lambs in-utero at scanning) did not differ between treatments. However, there was considerable variation in lamb survival between replicates/paddocks (Table 1). The survival of twin lambs to marking was quite high across all replicates despite the limited and variable FOO. Although not different, with the edible shelter treatment both the FOO and the survival of twins were numerically greater for Rep 2 than Rep1. Unfortunately the survival of twins was not challenged by the weather in this experiment, giving results similar to those for lambing under mild conditions in W.A. in July of 2004 (Oldham *et al*. 2008) and 2005 (Glover *et al*. 2008). It is possible the barley fed stimulated colostrum production in all ewes (Banchero *et al*. 2007) and the sunny weather around lambing led to a good balance of soluble carbohydrates and protein to provide quality FOO. Together, these factors would contribute to the survival and the live weight of the twins at weaning not being different.

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