

EFFECT OF BOVINE SOMATOTROPIN ADMINISTRATION DURING LATE PREGNANCY AND EARLY LACTATION ON MERINO EWES GIVEN LOW OR HIGH PLANES OF NUTRITION DURING PREGNANCY

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The partition of nutrients and mobilisation of body tissues of ewes in late pregnancy and early lactation may be influenced by both the amounts of body tissues available for mobilization and the administration of exogenous growth hormone. The following experiment was undertaken to examine these effects and their interaction in ewes fed a concentrate diet,

Single bearing Merino ewes were divided at random into two groups 60 d after joining, and low and high planes of nutrition were imposed by pasture availability and quality. Six weeks before parturition the ewes were housed in single pens and fed a concentrate diet as described by Watson *et al.* (1990) except that before parturition high plane of nutrition ewes were fed an additional 400 g/d of lupins. From 21 d prior to expected parturition and until 21 d after parturition, ewes within each plane of nutrition were given placebo (NaHCO₃ buffer) or 5 mg bovine somatotropin (BST)/d by subcutaneous injection.

Table 1 Responses of ewes given low or high planes of nutrition during pregnancy to BST administration from 21 d before parturition until 21 d after parturition

Measurement		Placebo		BST		Significance		
		Low	High	Low	High	BST	Nut	BSTxNut
Number		15	18	11	10	-	-	
Ewe LW (kg)	d 1	42.6	50.7	44.9	54.1	*	**	n.s.
Ewe LW change (kg)	d 1-21	-0.2	-3.7	-0.1	-4.6	n.s.	**	n.s.
	d 21-42	-0.2	-0.4	0.5	-1.1	n.s.	n.s.	n.s.
Feed intake (g/d)	d 1-21	980	862	1010	861	n.s.	n.s.	n.s.
	d 22-42	1148	966	1429	890	n.s.	**	n.s.
Colostrum (g DM)	1 h	123	124	105	140	n.s.	n.s.	n.s.
Milk (g DM/d)	d 1	386	485	517	600	n.s.	n.s.	n.s.
	d 7-21	251	256	298	316	**	n.s.	n.s.
	d 28-42	193	192	235	186	n.s.	n.s.	n.s.
Lamb LW (kg)	1 h	4.3	4.3	4.4	4.0	n.s.	n.s.	n.s.
Lamb LW gain (g/d)	d 1-21	180	200	259	250	**	n.s.	n.s.
	d 21-42	146	132	191	144	n.s.	n.s.	n.s.

The results indicate that the ewes given a high plane of nutrition during pregnancy were heavier at parturition, and during early lactation lost more LW. Plane of nutrition did not affect milk output, lamb birth weight or lamb LW gain. BST administration increased ewe LW at parturition, milk output and lamb LW gain, but did not affect feed intake, ewe LW change, colostrum output or lamb birth weight. No significant BST x Nutrition interactions were observed.

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