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INFLUENCE OF NUTRITION IN MID PREGNANCY ON MOHAIR QUALITY, LIVEWEIGHT AND BODY CONDITION SCORE OF ADULT ANGORA DOES

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Mohair production in Australia, originates mainly from breeding flocks. There are little objective data about the nutritional requirements and management of pregnant and lactating Angora does. While industry "best bet" recommendations have been made (McGregor 1988), these are based on limited research in South Africa, Texas and on grazing studies with Angora wethers (McGregor 1984). Angora wethers at Werribee encounter energy restrictions in winter and at moderate stocking rates they grow slowly (10 g/day). It is likely that pregnant and lactating Angora does, grazing during winter in southern Australia, will experience more severe energy restrictions than non-breeding goats. This experiment aimed to determine the effect of nutrition in mid pregnancy on mohair quality and growth, and changes in liveweight and body condition score of Angora does.

The design was 3 treatments with 38 replicates in randomised blocks. Treatments were levels of nutrition, managed by feeding does in individual pens in a feedlot from days 47-105 post insemination (PC). Treatments were: C, does fed to maintain liveweight, the control; S, does fed almost *ad libitum*, energy supplemented; R, does fed restricted energy resulting in liveweight losses. Pregnancy status was determined by ultrasound at day 43 PC. In 1991 at day 47 PC, 114 does were blocked on liveweight (mean \pm sd, 34.6 \pm 3.1 kg) and parity, and allotted. Initial body condition score was (mean \pm sd) 5.3 \pm 1.2. Nutritional level from day 106-parturition was *ad Zibitum*. The diet of chopped persian clover hay (*Trifolium resupinatum*, digestible dry matter =71.2%, crude protein =20.4%, metabolizable energy = 9.8 MJ/kg DM) was fed daily. In statistical analyses the appropriate pre-experimental fleece production or quality measurement was used as a co-variate.

Table 1. Mohair quality and growth, liveweight and body condition scores of adult Angora does fed persian clover hay to lose (R), maintain (C), or gain (S) liveweight during days 47-105 of pregnancy and then fed *ad Zibitum* until parturition. Fleece growth was for 5 months

Treatment	R	C	S	SED	Significance
Liveweight day 105 (kg)	31.6	34.2	35.6	0.62	P < 0.001
Liveweight day 140 (kg)	35.3	37.6	38.7	0.77	P < 0.001
Condition score day 105	4.7	5.9	6.1	0.33	P < 0.001
Condition score day 140	5.3	6.2	6.6	0.33	P < 0.001
Clean fleece weight (kg)	0.805	0.870	0.929	0.032	P < 0.001
Washing yield (%)	91.97	92.34	92.74	0.33	P < 0.05
Mean fibre diameter (μ m)	33.14	32.96	33.42	0.39	NS
Medullated fibres (%)	1.44	1.79	2.19	0.32	P < 0.02
Kemp fibres (%)	1.85	1.69	1.62	0.31	NS

Nutrition in mid pregnancy had significant effects on mohair growth, liveweight, body condition score and incidence of medullated fibres but no effect on fibre diameter and incidence of kemp. The results indicate that it is possible to increase liveweight, body condition score, and mohair growth by manipulating nutrition in mid pregnancy with only a small decline in mohair quality.

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