

LIFETIME WOOL 7. PROGENY GROWTH RATES

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Increasing feeding levels during early and mid-pregnancy can improve the growth rates of progeny (Dwyer *et al.* 1994), especially when ewe nutrition is restricted during lactation (Dove *et al.* 1988). Greenwood *et al.* (1998) found that high birth weight lambs were more efficient up to 20-kg liveweight and tended to grow faster than low birth weight lambs. In addition, lambs poorly grown in the first three months of life, although not permanently stunted, took several years to ameliorate their growth handicap (Allden 1968). This paper reports preliminary data from the 'Lifetime Wool' project (Thompson and Oldham 2004, *these proceedings*) on the effects of ewe nutrition during pregnancy and lactation on the growth rates of progeny to 12-months-of-age.

Ewes were differentially fed to achieve a mean condition score (CS) of ≈ 2.0 or 3.0 by Day ~90 of pregnancy and then grazed varying levels of feed on offer (FOO; kg DM/ha) until lambs were weaned. Ewe liveweight profiles through pregnancy and lactation are reported by Ferguson *et al.* (2004, *these proceedings*). After weaning the progeny were grazed in common and weighed every 2 to 6 weeks.

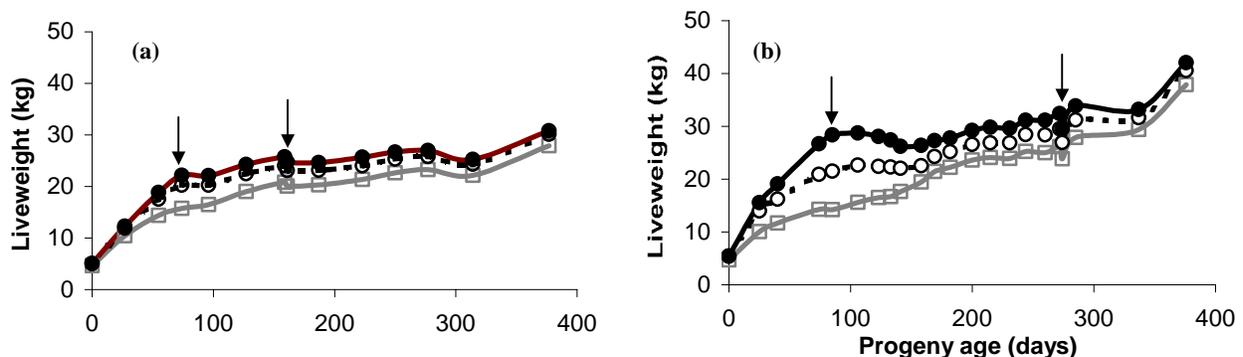


Figure 1. Liveweight profiles for single born progeny from birth until 12 months-of-age at the VIC (a) and WA (b) sites in 2001. The progeny were born to ewes that grazed on feed on offer (kg DM/ha) levels of 700 - 800 (—), 1400-1500 (---) and 3000 (—) during late pregnancy and lactation (data for ewes in condition score 2 or 3 at Day 90 of pregnancy were combined). Arrows denote weaning (Day 80-90) and shearing.

Improving ewe nutrition to mid-pregnancy appeared to increase lamb growth rates until 12-months of age at the VIC site, although the impacts were less than that reported by Dove *et al.* (1988) and not present at the WA site. The relative effects of FOO during lactation on progeny growth rates were much greater, such that the range in liveweights at weaning between the extreme nutritional treatments was 16 to 22 kg and 14 to 28 kg at the VIC and WA sites, respectively. These differences still existed at 12 months of age, but were less than 3 and 4 kg at the VIC and WA sites, respectively. Lower weaning weights were associated with significantly higher mortality until 12-months of age. Lower weights at 12-months would also be expected to influence annual fleece wool production, the proportion of animals suitable for specific markets and reproductive performance of replacement ewes. It is too early to say if lambs in this experiment that were poorly grown in early life will eventually catch up, as suggested by Allden (1968).

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