

EFFECT OF SUPPLEMENTING MAIDEN EWES ON MILK PRODUCTION AND LAMB GROWTH

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Milk production from maiden ewes is less than in subsequent lactations by 5-47% (Treacher 1983). Data on Australia's most important meat producing dam, the Border Leicester x Merino, are limited to that of mature ewes (Dove and Freer 1979; Langford and Dawe 1988) and little is known of growth rate of lambs from maidens. This study examined the effect of supplementing maiden ewes on milk production and lamb growth.

One hundred and forty 1.5 year old prima gravid Border Leicester x Merino ewes grazing at Cowra were due to start lambing on 25 April 1992 over a 5 week period. Ewes were allocated to 1 of 3 treatment groups on the basis of sire of lamb, period of joining and liveweight. The 3 supplementation treatments were 500 g oats; 250 g oats plus 250 g lupins, or 500 g lupins/hd fed daily in troughs from 3 days prior to the expected start of lambing until 4 weeks post partum(p.p.). With an evenly distributed lambing most ewes were supplemented for 18-30 days prior to parturition and for 4 weeks p.p. Thereafter individual ewes and lambs were placed on good pasture until weaning.

Measurements taken included lamb weight at birth, 2 and 3 months of age and at weaning. Milk yields on 109 ewes were estimated at 4 weeks p.p. for each ewe using the oxytocin method in which the ewes were milked by machine at the beginning and end of a 4 hour period, following 5 I.U. of intravenous oxytocin. Pasture available was measured at the beginning and end of the supplementation period.

Subsequent analysis of the pasture indicated that the base pasture was overestimated so that the total (pasture plus supplement) estimated nutrients were below maintenance requirements.

There was no effect of supplement on milk production at 4 weeks p.p. Mean 4 hour milk production and volume were 36.5 ± 2.2 g dry matter (DM) and 174.8 ± 10.3 mL respectively. This is not a high yield on which to rear lambs. Mean 4 hour production from parous Border Leicester x Merino ewes at 4 weeks in another experiment was 70 g DM (Holst and Hall unpublished). Dove and Freer (1979) estimated milk intake, as distinct from production, by single lambs at 4 weeks as 1984 mL/day which is almost double the production of maiden ewes reported here. We attribute this low milk yield to undernutrition (Cortes *et al.* 1977; Robinson 1978) and to parity (Boyazoglu 1963; Treacher 1983) but the relative effect of each is unknown.

Milk production measured at 4 weeks significantly affected single lamb weights at 8 and 12 weeks of age and at weaning but not at birth. Lamb growth rate was low (e.g. Dove and Freer 1979), but higher than Kenny and Smith (1985) who, under simulated drought conditions, increased lamb growth rate by 45 g/day by increasing the lupin content of the ration.

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