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## THE EFFECT OF PREGNANCY AND LACTATION ON WOOL WEIGHT IN A COMMERCIAL MERINO FLOCK IN SOUTHERN QUEENSLAND

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### SUMMARY

Pregnancy and lactation in ewes resulted in reduced greasy wool weight. Pregnancy decreased greasy wool weight by 0.19 kg or 3.4% and lactation by 0.37 kg or 6.9% ( $P < 0.01$ ). The effect was cumulative with a total decrease of 0.56 kg or 10.3%.

### I. INTRODUCTION

There are several reports of the effect of lactation and pregnancy in ewes on wool weights (Stevens and Wright, 1952; Palain, 1960; Seebeck and Tribe, 1963; Brown *et al.*, 1966; Corbett, 1966; and Rose, 1974). The magnitude of this effect varies with breed and location of sheep. No information is available for the effect of pregnancy and lactation on wool production of Merino ewes in the Western Downs or Maranoa regions of Queensland.

This paper records the effect of pregnancy and lactation on wool production in a flock of commercial Merino ewes at Surat, Queensland. These ewes were mated twice between shearings and their body-weights ranged between 26 kg and 42 kg.

### II. MATERIALS AND METHODS

As part of a trial as described by Armstrong, Allison and Oakes (1975), 1 280 two-tooth maiden ewes were run on 1 200 ha. The ewes were mated from 10 July to 27 August 1969 and from 12 March to 23 April 1970. Pregnancy was determined by an ultrasonic foetal blood flow detector\* (Fraser and Robertson, 1968; Lindhal, 1969) on 3 December 1969 and 23 July 1970. The trial commenced on 10 July 1969 with off-shear sheep which were shorn again on 8 June 1970. Individual fleece weights were obtained at the June 1970 shearing. Lactation was detected on 10 February 1970 using the technique of Dun (1963).

\*Sonicaid-Allard International Pty Ltd, Bulks, United Kingdom.

### III. RESULTS

Ewes with incomplete records were deleted from the analysis and the records of 877 ewes were used. These ewes were classified according to reproductive history into six groups. Mean wool weight was determined for each group (table 1).

TABLE 1  
REPRODUCTIVE HISTORY CLASSIFICATION AND MEAN WOOL WEIGHTS

Reproductive History	Mean Wool Weight (kg)
1. Non-pregnant, Dry, Non-pregnant (81) ..	5.50 <sup>a†</sup>
2. Non-pregnant, Dry, Pregnant (238) ..	5.42 <sup>ab</sup>
3. Pregnant, Dry, Non-pregnant (49) ..	5.31 <sup>ab</sup>
4. Pregnant, Dry, Pregnant (90) ..	5.24 <sup>b</sup>
5. Pregnant, Wet, Non-pregnant (200) ..	4.94 <sup>c</sup>
6. Pregnant, Wet, Pregnant (219) ..	4.89 <sup>c</sup>

†Means with a letter in common do not differ significantly ( $P < 0.01$ ).

### IV. DISCUSSION

The effects of pregnancy and lactation are cumulative.

The first pregnancy decreased wool weight by 0.19 kg or 3.4% which is lower than the 11% obtained by Brown *et al.* (1966). Lactation decreased wool production by 0.37 kg or 6.9% which is comparable with the 6% of Brown *et al.* (1966) but less than the 16% of Corbett (1966). The overall decrease of 0.56 kg or 10.3% is lower than the 17% of Brown *et al.* (1966) for Merino ewes, and the 14% in Pramenka sheep (Palian, 1960); it is greater than the 7% in Border Leicester x Merino cross sheep (Seebeck and Tribe, 1963) and 9% in Merinos (Mullaney *et al.* 1966; Rose, 1974). The findings are similar to the 10% increase obtained in Romney sheep in New Zealand (Stevens and Wright, 1952).

The results quoted in this paper confirm that pregnancy and lactation reduce wool weight by similar proportions to those found in other environments. The second pregnancy had a small effect on wool weights as would be expected with shearing being undertaken in mid gestation.

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