

INFLUENCE OF GENOTYPE, NUMBER OF LAMBS SUCKLED AND NUTRITION
ON MILK PRODUCTION AND COMPOSITION IN MERINO EWES

G.M. HOUGH*, A.J. WILLIAMS**, E.F. ANNISON*,
R.D. MURISON*** and G.H. McDOWELL*

An inverse relationship between milk and wool production has been reported (see Corbett, 1979). Milk production was examined in two Merino flocks selected for either high (f+) or low (f-) fleece weight. Four twin (T) and six single-suckled (S) ewes from each flock were fed a pelleted ration containing 9.6 MJ ME and 218 g CP/kg DM to either 0.8 (low plane, LP), or 1.3 (high plane, HP) times calculated requirements. Milk production was influenced by both number of lambs suckled ($P < 0.01$) and level of nutrition ($P < 0.01$): twin-suckled ewes produced 20% more milk (T, 1.6 g/d; S, 1.3 kg/d), and HP ewes produced 30% more milk than LP ewes (HP, 1.6 kg/d; LP, 1.3 kg/d). Milk yield was unaffected by genotype. The protein content of milk of f+ ewes was higher (6%) than that from f- ewes. Plane of nutrition influenced milk fat content in f+ ewes (HP, 6.4%; LP, 8.8%; $P < 0.10$) but not in f- ewes.

CORBETT, J.L. (1979). In "Physiological and Environmental Limitations to Wool Growth", p.79, editors J.L. Black and P.J. Reis. (The University of New England Publishing Unit).

* Dept. of Animal Husbandry, University of Sydney, N.S.W. 2570

** Dept. of Agriculture, Agricultural Research Centre, Orange, N.S.W. 2800

***Dept. of Agriculture, McKell Building, Sydney, N.S.W. 2000

THE GLUCOSE TEST : PERFORMANCE OF AUTUMN LAMBING EWES

R.W. KELLY*, R.A. PARR** and B.R. BEETSON*

This experiment examined the relationship between HIGH and LOW concentrations of blood glucose (above, below median) at about day 100 of pregnancy and pregnancy status (0, 1, 2 lambs) and response to differing levels of nutrition in autumn lambing ewes. Three flocks totalling 748 mixed age Booroola-Merino ewes were offered 0.31 kg oats, 0.61 kg oats or 0.45 kg lupins/head/day with ad lib. access to pasture hay from 5 weeks before the mean date of lambing. Of 17 ewes that died about lambing, 13 were from the LOW glucose group. Lambing results were examined after dividing ewes into 2 fortnightly periods of lambing. All of the barren ewes ($n = 144$) were allocated to the first period of lambing: 74% were in the HIGH glucose group. Most of the ewes with twins (75%, 62%) were in the LOW glucose groups. Single bearing ewes were evenly divided between glucose groups for both periods of lambing. There were no significant differences in birth weights or survival of lambs between the HIGH and LOW glucose groups for both periods of lambing, or between feeding treatments. The probability estimates of a ewe's pregnancy status based on blood glucose are lower than those previously reported. Failure to record differences in birth weight and survival of lambs to different glucose concentrations and feeding treatments is at variance with other published information. Recent studies suggest that attention may need to be focused onto the nutritional requirements of the autumn lambing pregnant ewe before day 100 of pregnancy.

* Sheep and Wool Branch, Dept. of Agriculture, South Perth, W.A., 6151.

** Animal Research Institute, Dept. of Agriculture, Werribee, Vic., 3030.