

OBSERVATIONS ON PNEUMONIA IN BORDER LEICESTERS AND RELATED TYPES

S.A. Barwick¹ and B.F. Chick²¹Agricultural Research and Advisory Station, Glen Innes, N.S.W. 2370²Regional Veterinary Laboratory, Private Mail Bag, Armidale, N.S.W. 2350

Border Leicesters are believed to be particularly susceptible to pneumonia, and there is some evidence that this susceptibility is inherited (Fogarty, 1977). As part of a larger evaluation of a new sheep, the 'BLI' (based on the Border Leicester, but including about 12% Merino genes), 49 Border Leicester (BL) and 45 BLIxBL lambs were examined for pneumonia. The results from this study are reported here.

Lambs studied were August/September 1980 drop and the progeny of 7 stud BL and 7 BLI sires; each sire had 2-12 progeny. Lamb weights were taken at birth and when slaughtered, and animals slaughtered in two groups, at either 59-91 days of age or 75-105 days of age. Average daily gain of lambs was 205 g. At slaughter, gross lung pathology was recorded and pneumonia incidence and severity scored according to the procedure of Kirton *et al* (1976). Pneumonia scores ranged from 1 (nil) to 4 (severe). Least squares procedures were used to analyse factors influencing the presence/absence of pneumonia (% P), pneumonia severity (PS) and survival to slaughter (% S), while models were also developed to examine effects of pneumonia on slaughter weight, weight gain and daily gain after adjusting for differences due to type of birth, age and slaughter group.

47.9% of lambs showed lesions typical of 'enzootic' pneumonia of sheep (Jubb and Kennedy, 1970), and organisms frequently associated with the disease were isolated from a number of affected animals. Severity of the pneumonia was relatively low; 39.4% of lambs having 'mild' pneumonia, 5.3% 'moderate' and 3.2% 'severe' pneumonia. Daily gain was the only significant ($p < 0.05$) factor influencing % P or PS, being positively associated with % P, though growth measurements generally were positively related to both % P and PS. Sire effects, disregarding genotypes, were not significant for either % P or PS. Genotype differences (expressed as (difference -0.17 score) or % S (difference +6.3%); in each case, however, BLI-sired animals were favoured. In analyses of effects of pneumonia on growth, % P and PS both had positive ($P < 0.05$) effects on slaughter weight, weight gain and daily gain.

These results agree with those of Kirton *et al* (1976) in New Zealand, who found a relatively high incidence of pneumonia in young lambs of other breeds, and a positive relationship between pneumonia and growth. It is apparent that high incidence levels can be common to a range of genotypes. In our study there was a tendency for BL's to be affected more than BLIxBL's, but a particular susceptibility of the BL to pneumonia remains to be clearly established. A more extensive study of the genetic variation for pneumonia susceptibility is necessary before the usefulness of selection against pneumonia can be properly evaluated.

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