SOME ASPECTS OF WINTER GRAZING SYSTEMS ON WOOL PRODUCTION

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ABSTRACT

A trial was conducted to investigate the effects that 5 different winter grazing systems had on some wool characteristics of pregnant N.Z. Romney ewes. The grazing systems were: (T1) swedes on a daily break; (T2) three weeks hay, three weeks swedes on a weekly break; (T3) swedes on a daily break providing 75% of the ration, hay daily providing 25% of the ration; (T4) pasture on a daily rotational break; (T5) pasture under set-stocking. The treatments were applied for 6 weeks between mean days 74 and 116 of gestation.

Feed intakes were higher on pasture than on swede crop treatments. Mean period intakes were: 0.68, 0.59, 0.84, 0.9, 1.68kg DM/ewe/day respectively for the 5 treatments, T1 to T5.

Pasture as a winter diet proved to be superior to any of the three forage crop (swede) variations of winter grazing for characteristics associated with wool growth rate. Differences were found between rotational grazing and set-stocking but neither was better over all characters assessed.

Mean fibre diameter changes over the 6 week treatment period were: T1, 32 to 27.3μm; T2, 31.2 to 24μm; T3, 31.8 to 27.4μm; T4, 33 to 31.6μm; T5, 31.7 to 33.2μm. Corresponding with these fibre diameter changes, tensile strength tests indicated that staples from forage crop treatments were weaker than those from pasture (5.79 v 9.22 kg/g/cm; $\rho<0.001$). Subjective soundness grades followed a similar pattern. Break usually coincided with the change from the crop back to pasture at the end of the treatment period. Hay with swedes tended to increase the tensile strength (6.25 v 4.75 kg/g/cm) by comparison to swedes alone.

Clean weight of wool per unit area was at least 300mg/cm^2 greater on pasture than on forage crops over the six weeks ($\rho<0.001$).

Wool production from older ewes ($\geq$ 5 years) was more strongly influenced by winter grazing than that of young ewes.

Ewes bearing single lambs produced more wool per unit area ($\rho<0.05$), had greater fibre diameter ($\rho<0.05$), soundness grade ($\rho<0.05$), tip grade ($\rho<0.05$) and character grade ($\rho<0.10$) than those bearing twin lambs.

Other characteristics measured were: fibre length, quality number, staple length, crimp frequency, handle, lustre, colour and cotting.

Insufficient numbers of animals involved in the lamb production data meant little significance could be attached to the results obtained.

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