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PASTURE AVAILABILITY AND COMPOSITION
IN RELATION TO
DIET SELECTION AND DIET QUALITY
BY GRAZING SHEEP

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presented in partial fulfilment of the requirements
for the degree
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Murray Clive Guy

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ABSTRACT

Some factors influencing grazing behaviour, diet selection and diet quality by sheep were investigated. The influences of pasture availability, accessibility, composition and digestibility on diet selection by grazing sheep at two stocking rates (24 and 36 sheep per hectare) over three-day grazing periods during two seasons (summer and autumn) were examined. The stocking rates were replicated twice and measurements were recorded at six intervals, each a three-day grazing period, over the summer and autumn seasons. Dietary samples were obtained by the use of oesophageal fistulated sheep, and comparisons between extrusa samples and cut pasture were made. Pasture type contrasted between seasons with extremes of availability, structure, accessibility and quality. These evolving pasture types and their changing properties are discussed.

Sheep grazing pasture have the ability to be selective, the extent of diet selection being dependent on pasture properties of availability, composition and quality. Diet preference is for the green leaf component of the pasture with avoidance of mature stem and dead matter. However in situations of low pasture availability and poor accessibility of the preferred green leaf component, increasing amounts of dead herbage were ingested, as was evidenced in comparisons between periods and during three-day grazing periods.

Digestibility values of the sheeps' diets are higher than corresponding values from available pasture the magnitude of the difference being dependent on pasture composition, availability and accessibility, ie. the opportunity afforded for diet selection.

Descriptions of experimental site, climatic conditions and animal management are recorded. The results are discussed in relation to other research findings, and their practical implications.

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