

A STUDY OF THE GRAZING BEHAVIOUR OF SHEEP ON A HIGH COUNTRY SUMMER RANGE

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At a high country sheep station in Central Canterbury a study was made of the grazing behaviour of sheep. For three summers, **between approximately** late October and early April, the distribution of an average of 250 dry sheep grazing 590 ha of a 6200 ha summer range was recorded. During the third season, levels of dry matter and water contents of available inter-tussock vegetation were measured, the visual abundance of plant species in cut samples assessed, and diet determined using faecal cuticle analysis. Digestibilities of some available dry matter samples and selected plant species were also measured. Sheep activities were monitored.

The study area was classified into 19 land units ranging from river flats through vegetated mid-slopes to high altitude areas of rocky bluffs and screes. These land units were the basis of the spatial aspects of the study.

Plant-animal interrelationships were studied by grazing pressure analysis and by diet determination. Two indices of grazing pressure were used: one using available dry matter as the denominator and the other using inferred available digestible dry matter.

Grazing distribution within the summer range varied seasonally. Within the study area sheep distribution was **centred** about damp areas containing higher quality herbage.

Overall levels of available dry matter decreased almost continuously during the season, and the water content of vegetation showed a marked temporary decline during midsummer,

Grazing pressure within the study area remained relatively constant until it was apparently forced up by the release of additional sheep on to the range after midsummer. Sheep movement to and from the study area, which resulted in the maintenance of grazing pressure, appeared to be in response to changes of both feed quantity and quality.

Within limitations of methods used, ranks of the major plant species in both field and faecal samples changed little during the season.

Between 7.40 a.m. and 7.00 p.m. the sheep spent an average of 73% of their time grazing, 14% lying, 9% standing, and 4% walking. These percentages changed slightly during the season; no change was directly associated with changes in grazing pressure.