

CALCIUM AND PHOSPHORUS STATUS OF WEANER SHEEP GRAZING NATIVE PASTURE IN THE FALKLAND ISLANDS

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Sales of wool are the major source of agricultural income for the Falkland Islands. Wool production is currently limited by high mortality and slow growth of young sheep, and overcoming these problems is a priority in achieving increases in wool quality and quantity. Plant tissue analyses indicate that all of the major species that comprise the native pastures of the Falkland Islands are deficient in calcium (Ca) and phosphorus (P) for much if not all of the year (Davies 1988). However, the effects of these apparent nutrient deficiencies have not previously been studied in the Falklands, and the extent to which they affect animal production is unknown. The aim of the study reported here was to determine the concentrations of Ca and P in the blood of ewes and wethers during their first year of life.

Blood samples were collected from ewes (n=25) and wethers (n=25) that were grazed on native pasture in the Port Stephens region of West Falkland. Sampling began immediately after weaning in January, and the same animals were subsequently sampled in April, June, September and November. The sheep were run together as one mob for the entire period. Plasma Ca and inorganic P concentrations were determined for each blood sample.

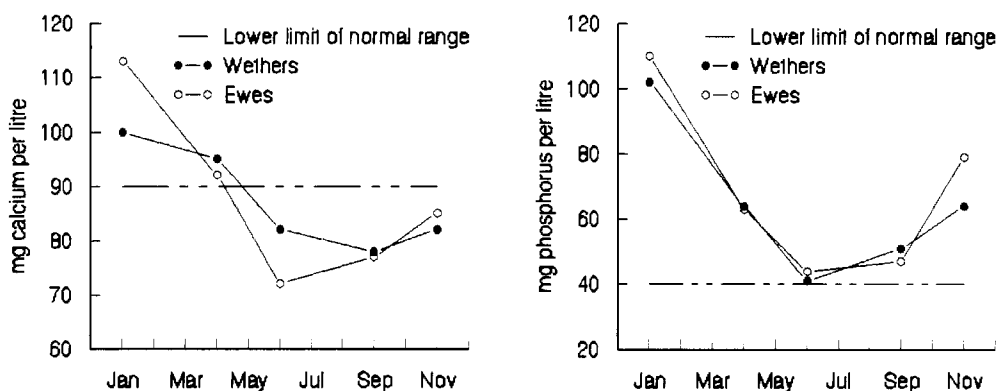


Figure 1. Plasma calcium and inorganic phosphorus concentrations in samples from young sheep grazing native pasture in the Falkland Islands

For both ewes and wethers, Ca levels declined progressively after weaning and fell below the normal range associated with sheep (90 to 110 mg/L; Underwood 1981). This decline may have been associated with a change in diet from pasture supplemented with milk, to a full pasture diet. Absorption of Ca from the pasture consumed appeared to be insufficient to maintain plasma Ca levels within the normal range for sheep. Blood inorganic P concentrations declined during autumn and winter and rose during spring and early summer. Plant P concentrations do not vary significantly during the year (Davies 1988), thus the winter decline may reflect changes in the diet selected by sheep as a result of snow covering the pasture, and/or the disappearance of the relatively P-rich summer-active plants from the sward.

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