

ABSTRACT

The Mineral Status and Haematological Values of Sheep and Goats with Reference to Swayback in Trinidad

Aphzal Mohammed

Studies were conducted to evaluate (1) blood mineral levels in (i) ataxic and apparently normal sheep and goats, and (ii) sheep and goats regarding season, location and physiological stage; (2) forage mineral levels (i) from swayback affected locations, and (ii) in relation to season and location; (3) tissue mineral levels (i) in ataxic and abattoir sheep and goats, and (ii) in abattoir sheep and goats in the wet and dry seasons; (4) haematological values (i) in ataxic and apparently normal sheep and goats, and (ii) in sheep and goats regarding season and physiological stage, and (5) to describe the pathological lesions in swayback lambs and kids.

Calcium, P, Mg, Na, Cu and Zn were analyzed in serum of sheep and goats and additionally, Fe and Mn in forages of the swayback and seasonal studies. Copper, P and Mg were probably limiting sheep production while Cu and P were probably limiting goat production in the swayback study. In the dry season, the order of minerals likely to limit production were Cu, Mg, Ca and P in sheep and P, Cu, Mg and Zn in goats. In the wet season, the order of minerals were Mg, Cu and P in

sheep and P, Cu, Mg and Zn in goats. Low forage Cu levels were in agreement with low blood Cu concentrations in ataxic lambs and kids. The order of forage minerals likely to affect production were Na, Cu, Mg and Zn in both seasons. Tissue Cu levels were deficient more so in ataxic than in apparently normal abattoir sheep and goats. Liver Cu at both seasons in sheep and goats, liver Fe at both seasons in goats including wet season liver Zn in sheep and goats, indicated low status of these minerals which were probably limiting animal production.

Whole blood Hb, PCV, WBC, neutrophil, lymphocyte, eosinophil, monocyte and basophil values and additionally plasma protein and fibrinogen levels were also determined in sheep and goats. Lower blood Cu, Hb and PCV were recorded in (i) ataxic than in apparently normal sheep, and (ii) goats in the wet than in the dry season. Low to moderate incidences of anaemia in ataxic and apparently normal sheep and goats of both studies were probably Cu related. Several adult goats showed evidences of eosinophilia and accompanying basophilia, which were probably responses to parasitic infection.

Most ataxic lambs and kids displayed the pathognomonic lesions of swayback, namely necrosis of the large motor neurones of the brain stem and spinal cord.