

Mineral status of dual-purpose goats and forage in Western Kenya

L.M. Musalia P.P. Semenyé H.A. Fitzhugh

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Abstract

Concentrations of minerals in blood of dual-purpose goats (DPG) and forages, commonly consumed by goats in western Kenya, were analyzed. Daily mineral intake from forage was estimated using dry matter intake of DPG in that area and supplementation estimated to meet requirements for milk production of 1.5 kg day^{-1} and body weight gains of 150 g day^{-1} .

Calcium, magnesium, potassium, manganese, and copper concentrations in forage were within the normal range recommended for goats, while iron (253 mg kg^{-1}) was exceptionally high. Sodium (0.2 g kg^{-1}), phosphorus (1.1 g kg^{-1}), and zinc (28 mg kg^{-1}) were low and may be among the limiting factors of animal production in that area. Browse species had significantly higher levels of calcium and copper than grass species. Calcium, magnesium, phosphorus, and copper concentrations in blood were within the normal range.

Supplementation of 3.6 g calcium, 3.4 g phosphorus, and 5.2 g sodium daily was estimated to meet requirements for lactating does while an additional 1.9 g phosphorus and 1 g sodium per day was estimated to be necessary for growing DPG.