



Studies on performance of young African goats fed diets containing sulphur additive

Studies of young African goats

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Abstract

Purpose – The purpose of this paper is to determine the effect of dietary sulphur supplementation from elemental sulphur on the growth performance, nitrogen (N) and sulphur (S) utilisation, rumen microbial volatile fatty acids production, acid/base balance, serum biochemical status and haematological profile of young West African dwarf and Red Sokoto (Maradi) goats, with a view of improving their nutrition for greater performance.

Design/methodology/approach – Twenty-four (12 of each) growing West African dwarf and Red Sokoto goats were fed isonitrogenous (17 per cent) and isocaloric (3.98 Mcal/kgDM) treatments containing varying levels of elemental sulphur at (percentage DM) 0.00, 0.15 and 0.20 in a 2 × 3 factorial arrangement within randomized complete block design. After a 61 day feeding trial, the performances of the goats were assessed and compared.

Findings – The results showed that S supplementation increased ($p < 0.05$) weight gain and feed efficiency in the fed goats with those on 0.20 per cent S level recorded highest values. Similar trends were observed for N and S retention, haematological and serum biochemical studies. S supplementation did not influence ($p > 0.05$) ruminal pH, lactate and acid/base balance. Increased dietary S inclusion increased ($p < 0.05$) molar proportions of acetate and propionate.

Practical implications – Owing to the outstanding performances of goats fed 0.15 and 0.20 per cent S dietary levels relative to their contemporaries on an unsupplemented (0.00 per cent) S diet, inclusion of S in the diet of growing animals becomes necessary for optimal production.

Originality/value – The paper provides information on the influence of sulphur on animal performance as poor nutrition constitutes a limiting factor to animal production.

Keywords Sulphur, Diet, Nutrition, Livestock

Paper type Research paper

