

# Predicting nutrient retention for body weight gain in ewe-lambs fed diets containing gliricidia (*Gliricidia sepium*) and neem (*Azadirachta indica*) leaves supplement

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## Abstract

This study investigated the effect of *Gliricidia sepium* with neem leaves supplementation on nutrient retentions for body weight gain in ewe-lambs. Twelve West African dwarf ewe-lambs with an average weight of  $7.00 \pm 0.32$ kg were randomly allotted to three dietary treatments with four ewe-lambs per treatment in a completely randomized design. The compared treatment diets were; diet I (I (50% guinea grass + 20% *Gliricidia sepium* + 30% concentrate), II (45% guinea grass + 25% *Gliricidia sepium* + 30% concentrate) and III (40% guinea grass + 30% *Gliricidia sepium* + 30% concentrate). Diets II and III received 3 and 6 grams of neem leaves meal per animal per day respectively as additional supplement. A metabolism trial was conducted at the end of the feeding trial to assess the diets on energy and nitrogen retentions after the growth study of the ewe-lambs. Results obtained showed that gross energy (3981.14MJ/kg DM/day), faecal energy and nitrogen output (1101.78 MJ/kg DM/day and 4.33g/day), daily feed intake (273.43g/day) and feed conversion ratio (7.32) were significantly ( $P < 0.05$ ) highest in ewe-lambs fed diet I. Ewe-lambs on diet III were significantly ( $P < 0.05$ ) highest in terms of digestible and metabolizable energy intakes (1306.37 and 1071.20 MJ/kg DM/day), nitrogen intake (20.93g/day), nitrogen balance and retention (17.33g/day and 81.47%), final body weight (11.08kg), total and daily weight gains (4.10kg and 48.81g) than those on diets I and II. No significant ( $P > 0.05$ ) effect was recorded among the treatment diets with regards to urinary energy output, metabolizability, urinary nitrogen output and initial body weight. It was concluded that ewe-lambs fed 40% guinea grass + 30% *Gliricidia sepium* + 30% concentrate with 6g neem leaves had better nutrient retentions for body weight gain in ewe-lambs

**Keywords:** *Gliricidia sepium*, neem leaves, nutrient retentions, growth, ewe-lambs.

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**Target audience:** Animal Scientists, Ruminant Nutritionists, Sheep Farmers