EFFECT OF UREA-IMPREGNATED NANOZEOLITE IN RATION ON CARCASS PRODUCTION OF LOCAL SHEEP

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Abstract

Background - Sheep, as small ruminants, adapt quickly to a variety of environments. Farmers face challenges in improving production efficiency and carcass quality, with feed management playing a key role. The right feed composition can improve growth and meat quality, which accounts for 70% of production costs. Innovations such as alternative feeds and additives, such as urea and nano-zeolite, help reduce costs. Nano-zeolite increases the availability and absorption of nutrients, thereby improving growth.

Purpose - This study aims to examine the effect of urea-impregnated nanozeolite in rations on carcass production of local sheep.

methodology - This study was held for 2 months at Papidoka Farm. A total of 24 male local sheep were used and allocated into a completely randomized design with two variables. Treatments consisted of control feed without supplementation (R1), concentrate feed supplemented with urea (R2), concentrate feed supplemented with active nano-zeolite (R3), concentrate feed supplemented with inactive nano-zeolite (R4), concentrate ration supplemented with urea-impregnated active nano-zeolite (R5), and (R6) concentrate ration supplemented with inactive nanozeolite impregnated with urea. Measurements were made of carcass parameters including slaughter weight, carcass weight, kidney weight, kidney fat weight, carcass percentage and kidney percentage.

Findings - This study is that the addition of urea-impregnated nanozeolite in the diet significantly affects carcass weight and carcass percentage ($P<0.05$). However, it does not influence slaughter weight, kidney weight, kidney fat weight, or kidney percentage. The conclusion of this study is that the addition of urea-impregnated nanozeolite in the diet significantly affects carcass weight and carcass percentage ($P<0.05$). However, it does not influence slaughter weight, kidney weight, kidney fat weight, or kidney percentage. The conclusion of this study is that the addition of urea-impregnated nanozeolite in the diet significantly affects carcass weight and carcass percentage ($P<0.05$). However, it does not influence slaughter weight, kidney weight, kidney fat weight, or kidney percentage. This is because zeolite can enhance rumen fermentation and feed protein efficiency, supporting growth and carcass production in sheep. Recommendation feed optimization using active or non-active nano-zeolite is recommended to improve carcass quality by enhancing palatability and growth performance.

Originality - Assessment of performance carcass production of local sheep fed diets containing urea-impregnated nanozeolite.

Keywords: local sheep, nanozeolite, urea, carcasses