

**EFFECT OF ALFALFA HAY REPLACEMENT WITH ACACIA ON THE NUTRIENTS DIGESTION, NITROGEN BALANCE, NUTRITIVE VALUES AND RUMEN FERMENTATION IN ARDI GOATS**

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**ABSTRACT**

This work planned to study the effect of acacia substitution for traditional alfalfa hay as alternative fodder in feeding goats, on the nutrients digestion, nitrogen balance, nutritive values and rumen fermentation. A total of 32 Ardi goats (initial weight  $27.66 \pm 0.28$  kg) were used in this study (20 intact animals for the digestibility and nitrogen balance and 12 castrated animals for ruminal fermentation). Goats were randomly assigned into 4 groups, five and three animals each for digestibility and rumen fermentation, respectively. Goats in-group 1 fed a control diet containing 40% alfalfa hay and 60% concentrate mixture. Goats in groups 2, 3 and 4 fed diets in which 20, 30 and 40% of acacia replaced as the same percent of alfalfa hay in control diet. There were no significant differences between the control group and group 3 fed 30% acacia, in digestion coefficients of DM, OM, CP and CF. There were no significant differences among all groups in EE. The goats fed 30% of acacia had the best nutrients digestion compared to the other two groups fed 20 and 40 % acacia whereas almost similar to control group. The same manner was shown in nitrogen balance, DCP, TDN, digestible and metabolizable energy and rumen fermentation. It could conclude that there was no negative impact on digestion of goat diet when acacia replaced alfalfa up to 30%.

**Key words:** *Acacia, goats, digestibility, nitrogen balance, rumen fermentation*

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