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Effect of Fenugreek Seeds Supplementation on Nutritional Performance and Milk Production of Sudanese Nubian Goats

BALGEES ABU ELGASIM ATTA ELMNAN, SIHAM RAHMATALLA, ABDELNASIR FADELELSEED

University of Khartoum, Dept. of Animal Nutrition, Sudan

Abstract

This study was conducted to assess the effect of supplementing a basal diet with different levels of fenugreek seeds 0% (F0%), 5% (F5%), 10% (F10%) and 15% (F15%) on feed intake, digestibility, milk yield and composition, and economic appraisal. Twelve lactating Nubian goats were divided into four equal groups, consisting of 3 replicates of one animal on each group, using a completely randomised design. The diet fed immediately postpartum for two consecutive months. Feed intake (g/day) and milk yield (liter/day) were recorded daily while feces samples of individual animals were collected during the last week of the trial. The results revealed that dry matter and crude protein intake were significantly ($p \leq 0.05$) increased when fenugreek seeds were fed to goats as compared to the control. Also supplementing diets with fenugreek seeds significantly ($p \leq 0.05$) increased nutrients digestibility of dry matter, crude protein and organic matter. Milk yield increased significantly ($p < 0.05$) with the increased levels of fenugreek seed supplement, with concomitant decrease in milk fat content, while the other milk components (protein, lactose and solid not fat) showed an inconsistent pattern.

In addition, the results indicated that the cost of diet increased in supplemented groups compared to the control group. It was 0.47, 0.92, 1.28 and 1.63 SDG for (F0%), (F5%), (F10%) and (F15%), respectively. However, the profitability was increased dramatically with increasing the levels of fenugreek seeds, being 199.05% (F5%), 212.38% (F10%) and 253.33% (F15%) compared to the control group.

It was concluded that supplementing Nubian goats with fenugreek seeds has positive effects on dry matter and crude protein intake, dry matter digestibility, crude protein digestibility, organic matter digestibility, milk yield and profitability.

Keywords: And profitability, digestibility, fenugreek seeds, intake, milk yield and composition