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Effect of Feeding Graded Levels of *Moringa* Feed on Intake, Digestibility, Enteric Ch_4 Emission, Rumen Fermentation, Milk Yield and its Quality of Blri Cattle Breed^{-1} Dairy Cows

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Abstract

An experiment was carried out to evaluate the effect of feeding graded level of *moringa* feed on intake, digestibility, rumen fermentation, methane (CH_4) production, milk yield and its quality.

Fifteen BLRI Cattle Breed (BCB) dairy cows of third or fourth parity after wk 3 and 4 of calving were selected and divided into three dietary groups having five animals in each considering their live weight and ex-entry daily milk yield. A group of cows fed a control diet (T0) consisting 1:1 dry matter (DM) of napier silage and conventionally mixed concentrate. The other two groups were fed the control diet randomly replacing i) 50 % (T1) or ii) 100 % (T2) of its concentrate by *moringa* feed. All the three diets were isonitrogenous and formulated to supply daily energy and crude protein (CP) requirement of the cows according to BSTI standard.

The replacement of concentrate mixture by *moringa* feed to increase the feed efficiency and to reduce the DM or CP intake ($p < 0.05$) per 100 kg or metabolic body weight. The fresh milk and 4% fat corrected milk (FCM) yield were significantly higher ($p<0.05$) in T2 group (4.39 kg d^{-1} and 4.59 kg d^{-1}) compared to T0 group (3.30 kg d^{-1} and 3.49 kg d^{-1}), respectively. It also revealed that the total volatile fatty acid (VFA's) concentration was increased ($p < 0.05$) and decreased the blood and milk cholesterol and ammonia-nitrogen (NH_3-N) when *moringa* feed was added in the control diet; without showing any significant($p > 0.05$) change in CH_4 production, fat, solid not fat (SNF), lactose or protein content of milk.

Therefore, *moringa* feed increased the productivity of dairy cow, replacing the whole concentrate diet.

Keywords: Digestibility, Intake, Milk production, Milk quality, moringa feed, Rumen environment

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