

## EFFECT OF SUPPLEMENTING *Moringa oleifera* LEAVES AS FEED ADDITIVES ON BLACK BENGAL GOAT

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### ABSTRACT

*Moringa (Moringa oleifera* Lam. moringaceae) is a highly valued plant that is mostly cultivated in the tropics and subtropics. It is used for food, medication and industrial purposes. The objective of the study was to assess the nutritional value of *Moringa* leaves and to determine the effect of supplementing *Moringa oleifera* leaves (MOL) on growth performance, carcass and non-carcass characteristics of Black bengal goats. The dried leaves had crude protein levels of 30.3%. The dried leaves had the following mineral contents: calcium (3.65%), phosphorus (0.3%), magnesium (0.5%), potassium (1.5%), sodium (0.164%), sulphur (0.63%), zinc (13.03 mg/kg), copper (8.25%), manganese (86.8 mg/kg), iron (490 mg/kg) and selenium (363 mg/kg). The fiber content was neutral detergent fibre (NDF) (11.4%), acid detergent fibre (ADF) (8.49%), acid detergent lignin (ADL) (1.8%) and acid detergent cellulose (ADC) (4.01%). The condensed tannins had a value of 3.2%, while total polyphenols were 2.02%. In the other hand, a total of 36 castrated goats aged 8 months, with a mean initial weight of 7.63±0.8 kg, were randomly divided into three diet groups with twelve goats in each. The duration of the trial was 90 days. All goats received a basal diet of grass *ad libitum* and mixed basal diet (200 g/day each). The MOL groups were fed additional 100g (MOL1) and 200 g (MOL2) of dried *M. oleifera* leaves, respectively. The third group (Control) did not receive any additional ration. The attained average daily weight gain for goats fed MOL1, MOL2 and Con were 103.3, 101.3 and 43.3 g, respectively (P<0.05). Higher (P<0.05) feed intakes observed were in MOL2 (491.5 g) and MOL1 (490.75 g) compared with Con (404.5 g). The hot carcass weight was higher (P<0.05) for MOL2 (7.18 kg) and MOL1 (7.14 kg) than for the Con group (5.46 kg). The dressing percentage in MOL2 (50.8%) and MOL1 (50.0%) were higher (P<0.05) than that of the Con (44.9%). The growth performance and carcass characteristics of MOL2 and MOL1 goats were not different. Moreover the experimental result reveal that MOL has a cholesterol lowering effect and no lesion has been identified in the gastrointestinal mucosa of the parasitized animals fed on MOL mixed diet. Feeding MOL improved the growth performance and carcass characteristics of goats in an almost similar way, which indicates that *M. oleifera* could be used as a supplement or additives in goats.

**Keywords:** black bengal goat, carcass characteristics, growth performance, *moringa oleifera*, supplements