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## Determination of dietary regimen of *Moringa oleifera* leaves on selected blood constituents, productive traits, reproductive performance in Nubian goat

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### Abstract

The main objectives of the current study were to assess the influence of *Moringa oleifera* leaves (MOL) as a supplementary feeding regimen on selected blood Serum constituents, lactation and reproductive performances of Sudanese Nubian goats. Twenty apparently healthy, sexually mature (3 – 5 years old) multiparous Nanny goats of fair body condition score (BCS) were selected from a herd of 100 Nubian goats. The animals were allocated into 4 feeding levels groups (5 each) according to MOL supplementation. Group A (20%), group B (40%), group C (60%) of MOL, and group D (0%) left as control. The results obtained indicated no significant increase in blood serum levels of albumin, total proteins (TP), Ca, P, Mg, K, Fe, and Zn but there was a significant increase in the blood serum Na and Cu in supplemented groups compared to the control group. There was no significant difference observed in milk composition due to MOL supplementation. Nevertheless, milk yield was increased significantly ( $p < 0.05$ ) in groups C and B compared to groups A and D. The ovarian response showed a significant difference ( $p < 0.05$ ) in groups A and B (100%) compared to group C (80%) and group D (60%).

In conclusion, the current study revealed that, *Moringa oleifera* leaves could be used for the improvement of the livestock production system of small ruminants without any adverse effect on the blood serum traits and reproductive performance at 20% and 40% diet inclusion levels.

**Keywords:** Dietary supplementation, nubian goats, *Moringa oleifera*, reproductive performance