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## Growth Performance and Milk Yield of Crossbred Sahelian Goats in the Semi-arid Zone of Mali

SANOGO SOULEYMANE<sup>1</sup>, MOHAMED MOMANI SHAKER<sup>1</sup>, NANTOUME HAMIDOU<sup>2</sup>

<sup>1</sup>*Czech University of Life Sciences, Animal Science and Food Processing in Tropics and Subtropics, Czech Republic*

<sup>2</sup>*Institute of Rural Economy (IER), Laboratory of Animal Nutrition (Sotuba), Mali*

### Abstract

The objective of this study was to evaluate the effect of crossbreeding Sahelian goats with Anglo Nubian bucks on breed type, litter size, sex, and the growth performance of the kids as well as the milk yield of does from birth to 100 days of age. The study was carried out at the regional center of agricultural research of Samé (CRRA/Kayes, Mali). Forty four does were randomised and divided to two groups hand-milked [Sahelian Goat (SG; n=22) and F1Anglo Nubian × SG (ANSG; n=22)]. Then, ninety kids of three breeds were allocated to three groups (SG; n=30), F1 (ANSG; n = 30) and B1 backcross breeds kids (F1AN; n = 30)]. Upon kidding, does and their offspring were kept in a pen in which remained until three weeks of age; then stayed indoor system for 45 days after they were permit to outdoor when the weather is suitable. Every category has received a nutritional supplementation upon the annual season (rainy, cold dry and dry hot season). Live-Body Weight of kids and Average Daily Milk production of does were recorded weekly throughout pre-weaning.

The effect of all factors on Birth Weight, growth performance of kids, and milk production, was determined using F-test ( $p < 0.001$ ). The birth weight and live-body weight of kids were significantly affected by genotype, litter size, and sex ( $p < 0.05-0.001$ ). Live-body weights of kids were greater ( $p < 0.001$ ) in B1 group, compared to F1 and SG at all age. The growth performance was greater in B1 kids until 100 days,  $131.87 \pm 8.12g$  ( $p < 0.001$ ). Good correlation was found between overall kids birth weight and live-body weight at 100 days of age ( $r=0.85$ ). Similarly, daily milk production was highly significantly affected by genotype ( $p < 0.001$ ) throughout the observation period; therefore, the total milk production at 100 days for F1 has increased to 103 % over SG.

This study has showed the larger milk production of F1 crossbreeds; this could be well extended into rural areas with good effect on farmers' revenue. Then, the greater growth performance of B1does should be further investigated by the department of agriculture in Mali because of the probable economical impact to the population needed.

**Keywords:** Anglo-Nubian, crossbreeding, growth performance, Mali, milk production, sahelian goat