

# **Digestability and Feed Intake Studies with Pregnant and Lactating West African Dwarf Goats.**

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## **Abstract:**

The effect of pregnancy and lactation on digestibility and voluntary intake of feed was studied with a total of 15 female West African dwarf goats fed alfalfa pellets ad libitum. The effect of pregnancy and lactation on eating and rumination times was also studied in eight out of these animals.

The animals were individually penned and fed ad libitum throughout the experiment. The apparent digestibility coefficient of the feed was determined during pregnancy and lactation when the animals were kept in metabolism crates for 14 days adaptation and seven days collection period. The voluntary feed intake and liveweight data were collected weekly while rumination and eating time's data were collected daily by observing the jaw motions of the animals during pregnancy and lactation periods. Data were subjected to statistical analyses using the analysis of variance (ANOVA), students' t-test, Kruskal-Wallis 1-way ANOVA and Wilcoxon Matched pairs signed rank test.

The pregnant does had a higher liveweight (23.5 kg) and higher rate of weight gain than the non-pregnant ones (21.48kg) ( $P < 0.05$ ). The reverse was the case during lactation. The lactating does weighed 23.62Kg while the non-lactating does weighed 25.66Kg.

The apparent differences in voluntary feed intake (VFI) and apparent dry matter (DM) digestibility between pregnant (764.3g/anim./day and 54%) and non-pregnant does (666.5g/anim./day and 55%) were not significant. During lactation, VFI increased from parturition until the seventh week in lactation. Dry matter intake declined afterwards. However, the difference observed for the apparent DM digestibility between lactating (53%) and non-lactating does (5%) was not significant ( $P > 0.05$ ).

Times spent eating and ruminating by the pregnant does (356.1 min/day and 495.2 min/day) were significantly higher than those of non-pregnant ones (253.6min/day and 423.7min/day), but the time spent by the lactating does on eating alone (363.1min/day) was significantly higher than that of non-lactating<sup>g</sup> does (231.3min/day) ( $P < 0.05$ ). Models used to describe feed intake during pregnancy and lactation could explain 68.2% and 85.3% of the variations in intake respectively. This showed that feed intake during pregnancy may be difficult to predict than during lactation.

**Keywords:** Lactation / digestibility/ pregnancy

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