

# Fetal growth monitoring using ultrasonographic assessment of femur and tibia in Sahelian goats

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## 1 ABSTRACT

The fetal growth monitoring using ultrasonic assessment of tibia (TL) and femur (FL) with known gestational stage (GS) were obtained from Twenty-one (21) gravid Sahelian goat, performed twice-weekly using ultrasound machine having 5 MHz linear transducer. The fetal ages ranged between day 30 and day 120. The data were fitted to their optimal regression line ( $p < 0.05$ ) and described by the equation as well as coefficient of determination was calculated. The threshold of accurate ultrasonic femur and tibia measurement in Sahelian goat is approximately days 43, with respectively 10.83 mm and 6.2 mm. The derived gestational stage prediction equations were  $GS = 0.66TL - 21.09$ , ( $r=0.93$ ) and  $GS = 0.59FL - 21.59$ , ( $r=0.92$ ), where GS is in days, FL and TL are in mm. These results suggest that, FL and TL can be used to estimate GS in Sahelian goats. The study also shows that, in many aspects, growth changes in femur and tibia had very similar patterns in goats and sheep, indicating their close phylogenetic relationship.

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