

# Evaluation of vitamin D status at different stages of pregnancy in Gray Shirazi ewes

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## Abstract

The aim of this research was to examine the serum vitamin D status in Gray Shirazi ewes during different reproductive stages, including mating, pregnancy, and early lactation. A total of 60 healthy ewes were sampled at three stages. The first stage was during mating, the second stage was in the late pregnancy, and the third stage was after delivery. The blood samples were analyzed for 25-hydroxy vitamin D levels. At delivery, multiple births, weight of lambs, and stillbirth rates were recorded. The results revealed that the mean serum vitamin D levels were significantly higher in the third stage of sampling (beginning of lactation) compared to the first stage (mating) and the second stage (pregnancy) ( $P=0.014$  and  $P=0.017$ ). However, there was no significant difference in vitamin D levels among the non-pregnant (the ewes that did not become pregnant after mating), singleton, and twin groups at any of the sampling stages. Vitamin D levels were highest at the beginning of lactation in gray shirazi ewes. Additionally, serum vitamin D was slightly decreased in pregnant ewes as the number of lambing increased. In total, the findings suggest that maintaining sufficient vitamin D levels may play a role in reproductive health in sheep, as there appears to be a correlation between vitamin D levels and fertility.

**Key words:** Vitamin D, Ewe, Pregnancy, Gray Shirazi breed

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