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Title: Effect of long-term dietary supplementation with clinoptilolite on performance and selected serum biochemical values in dairy goats.

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Abstract: Objective--To determine the effect of dietary supplementation with clinoptilolite on health and production as well as serum concentrations of fat-soluble vitamins, macroelements and trace elements, and activities of hepatic enzymes in dairy goats. Animals--72 Saanen-cross dairy goats. Procedures--Goats were randomly assigned to 1 of 2 groups. The clinoptilolite group (n = 36) received concentrate feed, of which 2.5% contained clinoptilolite; the control group (36) received unsupplemented feed. The experiment began 8 weeks before parturition and continued to the beginning of the next nonlactating period (280 days of lactation). At the day of parturition, kids were weighed. Milk yields were recorded at day 60 of lactation and thereafter at monthly intervals. Milk percentages of fat, protein, and lactose and somatic cell count (SCC) were evaluated at the same points. Blood samples were obtained at the beginning of the experiment, the day of parturition, and thereafter at monthly intervals to measure serum concentrations of fat-soluble vitamins, macroelements and trace elements, and activities of hepatic enzymes. Results--Birth weights of triplets and quadruplets were significantly higher in clinoptilolite- treated goats versus control goats. Milk fat percentage was significantly higher and SCC was significantly lower in clinoptilolite-treated goats, compared with respective values in control goats. However, no changes in serum concentrations of any variable were detected. Conclusions and Clinical Relevance--In the context of this experiment, clinoptilolite supplementation of concentrate feed at 2.5% improved milk fat percentage in dairy goats, without adverse effects on the serum

variables evaluated. Furthermore, the reduction of SCC achieved with clinoptilolite supplementation provided some evidence of improved milk hygiene. (Am J Vet Res 2009;70:346-352) [ABSTRACT FROM AUTHOR]

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