

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

BIOCHEMICAL PARAMETERS OF LACTATION GOATS SUBMITTED HEAT STRESS FED WITH DIFFERENT LEVELS OF ENERGY IN THE DIET

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The blood is directly involved in the mechanisms of heat loss, assessment of blood constituents can be used to estimate the adaptive capacity of homeothermic animals. The objective of this study was to evaluate the biochemical parameters of lactating goats submitted to heat stress fed with different levels of energy in the diet. The study was conducted at the Bioclimatology Research Unit, Federal University of Paraíba, Areia - PB. Twelve Alpine goats, housed in two climatic chambers, were kept in individual metabolic cages. The animals were distributed in a crossover experimental design in a subdivided 2 x 3 x 2 plots scheme (temperature of ambient x levels of energy in the diet x two periods). The environmental conditions were thermoneutral (26°C) and heat stress (34°C from 7 a.m. to 5 p.m., and 30°C from 5 p.m. to 7 p.m.). Experimental diets presented three levels of metabolizable energy, isoprotein, with different voluminous: concentrate ratio. The following blood metabolites were evaluated: glucose, cholesterol, triglycerides, urea, total protein and albumin. The environmental temperature did not influence the plasma levels of triglycerides, urea and total protein ($P > 0.005$). The glucose presented higher ($P < 0.005$) plasma level in the thermoneutral environment. Cholesterol and albumin had a higher ($P < 0.005$) plasma level in the heat stress environment. The diet with the highest level of metabolizable energy had a lower ($P < 0.005$) triglyceride level, the other blood metabolites were not ($P > 0.005$) influenced by the diets studied. Lactating goats submitted to heat stress have higher plasma levels of albumin and cholesterol, and lower glucose levels.

Keywords: bioclimatology, blood indicators, dairy goats

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