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BIOCHEMICAL AND PHYSIOLOGICAL RESPONSE OF GARFAGNINA GOAT BREED

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Garfagnina breed is a population originated from Garfagnina valley (Italy). At present the population is around 2500 animals. It is considered a dairy goat but there isn't any active genetic improvement programme. The present work was carried out in the spring season with the objective to measure chemical and physiological parameters of lactating and not lactating animals, as well as the adaptive mechanisms of these animals in the spring. Twenty-nine not lactating goats and 51 lactating goats were used. The environmental data were collected along the day through a meteorological automatic station with data collection every 15 seconds. Blood samples of goats were withdrawn from the jugular vein in Vacutainer tubes with gel separator for in order to obtain serum and to determine proteins metabolites and enzymes concentrations. Rectal temperature (RT) was measured through a veterinary clinical thermometer, hearth (HR) and respiration (RR) rates with the help of a stethoscope and, surface temperature (ST), through an infrared thermometer. Data were analysed by the analysis of variance considering the fixed effect of lactation (yes or no) using the SAS® program. During the period of data collection (from 9:00 a.m. to 4:00 p.m.) the average values of relative humidity, wind speed, globe-thermometer temperature and THI and BGHI indexes were 16.5°C, 40.7 %, 1.5m/s, 26.7°C, 62.8 and 69.7, respectively. In general, it has been observed a significant difference of lactation on biochemical parameters. Average values for lactating and not lactating animals were: glucose (57.09 \pm 0.97; 62.14 \pm 7.21), triglycerides (13.63 \pm 6.68: 23.41 \pm 13.64), urea (45.82 ± 7.41 ; 41.69 ± 8.29), total protein (7.51 ± 1.14 ; 8.28 ± 0.84), creatinine (0.87 ± 1.14) 0.09; 0.71 \pm 0.13) and globulin (4.07 \pm 1.18; 4.83 \pm 1.25). No significant differences of lactation effect were observed for RT, HR and RR. However, it was noticed that the ST was different between the groups. Lactating animals showed an average value of 34.43 ± 1.04°C whereas the average value for non lactating animals was 33.82 ± 0.94°C where the heat dissipation requires lower levels of energy. The physiologic state influenced the different biochemical parameters of Garfagnina breed goats, with significant differences for glucose, urea, total protein, triglycerides, creatinine and globulin.