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METABOLIC CHARACTERISTICS OF THE PERIPARTUM OF CURRALEIRO PÉ-DURO COWS

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The peripartum is a stage where the cows have to adapt to different metabolic and hormonal changes that occur during this period, also known as the transitional period. At the same time, three weeks before the beginning of lactation until the production of postpartum milk, nutritional requirements adapt, producing a negative energy balance effect due to the animal can not consume enough nutrients for proper maintenance of energy balance, in addition, nothing is known about metabolic/nutritional balance of Curraleiro Pé-Duro cows, in this period. This study aimed to evaluate the energy profile, metabolic hormonal profile, protein profile and liver and kidney function of Curraleiro Pé-Duro cows during the transitional period (peripartum). Twelve Curraleiro Pé-Duro cows had their blood collected daily by jugular venipuncture 10 days prepartum until 10 days postpartum. The data were evaluated using GLM stat and regression analysis using the statistical program R Core Team, comparing the periods of the peripartum, for this it was assumed that: Period 1 corresponds to ten days (D-10) to five days before calving (D-5); Period 2, five days before calving (D-5) until the day of calving; Period 3, the day of calving to five days postpartum (D5); and Period 4, five days postpartum (D5) to ten days postpartum (D10). Non-esterified Fatty Acids and beta-hydroxybutyrate showed no variation in their concentrations ($P > 0.05$) during the period. Triglycerides declined in the period 2, together with the cholesterol increase ($P < 0.05$), which later showed increases in periods 3 and 4 ($P < 0.05$). Thyroxine fell in Periods 1, 3 and 4. For the protein profile was observed increase in Total Plasma and albumin in Period 2 and fall of urea in Period 3 ($P < 0.05$). Bilirubin decreased in Period 2 and, in the Period 3 it increased ($P < 0.05$). The other metabolites did not show variations in their concentrations ($P > 0.05$) in the transitional period. The Curraleiro Pé-Duro cows showed no major metabolic changes throughout the peripartum, which may be associated with the characteristics of adaptation to low quality pasture sites such as the Brazilian semi-arid and Cerrado. These results may serve, in the future, as normal parameters of hormonal changes and metabolic profile for Curraleiro Pé-Duro cows during the peripartum and may serve as a resource for nutritional adequacy and management practices in this breed conservation nuclei.

Keywords: Transitional Period; Locally Adapted Breed; Genetic Resources

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