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Área do trabalho: Nutrição e Produção de Não-Ruminantes

Lactose and fat content in the milk of primiparous and multiparous Nordestino ecotype Donkeys

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Donkey milk has nutritional and therapeutic properties and is used in human nutrition to treat respiratory, joint, and digestive diseases, especially in cases of cow's milk protein allergy. Compared to other production animals, donkey milk is the closest to human milk nutritionally, particularly regarding lactose and protein content. This study aimed to analyze the lactose and fat concentrations in milk of primiparous and multiparous donkeys of the Nordestino ecotype until 180 days of lactation. Fourteen female donkeys, aged 3 to 7 years and a mean body weight of 185 ± 30 kg, were used in a completely randomized experimental design with split-plots, where the plots consisted of primiparous and multiparous groups and the subplots represented the evaluation periods: 1, 3, 15, 30, 60, 90, 120, 150, and 180 days of lactation. The animals were kept in native pasture area throughout the gestation period, with water and mineral salt *ad libitum*. At 11 months of gestation, the females were moved to maternity paddocks and, after giving birth, remained in an area of approximately 0.5 hectares without vegetation cover. From the 11th month of gestation, their daily dry matter intake was 2.5% of their body weight, with 70% roughage and 30% commercial concentrate, specific for breeding equids. The animals exclusively consumed Tifton 85 hay (*Cynodon* spp.) as roughage. Data were subjected to variance analysis, and means were compared by Tukey's test ($P < 0.05$). Regarding the lactose content of the milk, there was no difference ($P > 0.05$) between primiparous and multiparous groups. Both groups had lower lactose concentrations in colostrum and transitional milk and higher values between 15 and 120 days of lactation, with a maximum value recorded of $7.77 \text{ g} \cdot 100 \text{ mL}^{-1}$ on the 120th day. By the 180th day, the lactose concentration returned to values close to the initial days, at $6.96 \text{ g} \cdot 100 \text{ mL}^{-1}$. In terms of fat content, there was an interaction between the experimental groups and the evaluation days ($P = 0.0002$), but the differences were limited to samples collected at 150 and 180 days of lactation, with means of $0.47 \text{ g} \cdot 100 \text{ mL}^{-1}$ for primiparous and $0.73 \text{ g} \cdot 100 \text{ mL}^{-1}$ for multiparous on the 150th day, and means of $1.21 \text{ g} \cdot 100 \text{ mL}^{-1}$ for primiparous and $0.54 \text{ g} \cdot 100 \text{ mL}^{-1}$ for multiparous on the 180th day of lactation. It is concluded that the number of births does not influence the lactose concentrations in the milk of Northeastern ecotype donkeys during the first six months of lactation. Additionally, there may be occasional fluctuations in the fat content of donkey milk during the initial six months of lactation.

Keywords: Colostrum, Lactation, Pregnancy.

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