

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

PRODUCTION AND CHEMICAL COMPOSITION OF HOLSTEIN COWS MILK DEPENDING ON SEASON OF THE YEAR

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Milk constituents may be altered by the feed given to animals, as well as modified according to climatic factors. Therefore, the objective was to evaluate the effect of the season on production and composition of Holstein cow's milk. The study was developed at the university of Maringá experimental farm located in Iguatemi-PR, latitude 23° 25 'S; 51° 57 'W, and 550 meters of altitude. According to Köppen classification, the climate of the region is Cfa, humid subtropical with hot summer. The animals were kept semi-confined and fed concentrate with 24% CP, 73% NDT and minerals in proportion to the milk production 60% of the diet was composed of Cynodon pasture with corn silage supplementation throughout the year. Data from the dairy control performed between 2007 and 2017 were used. The design was completely randomized (DIC), and the data were analyzed by the PROC GLM function of the SAS® program (Statistical Analysis System, 9.4) and the means were compared by the Tukey test. The production averages corrected for 4% of milk fat were 18.00, 19.05, 21.98 and 21.07 kg/cow/day, respectively for the summer, autumn, winter and spring seasons, with winter and spring seasons showing higher ($P < 0.05$) means of productivity. The percentage of lactose in the milk was 4.53, 4.48, 4.60, 4.61, respectively for the summer, autumn, winter and spring months, where lactose(%) was higher ($P < 0.05$) during winter and spring. The protein(%) of the milk was higher ($P < 0.05$) in the autumn season in relation to the other seasons. Data obtained at the meteorological station, located at the experimental farm reveal higher temperatures for the summer and fall seasons, a fact that may explain the lower productivity in these months due to thermal stress. The highest percentage of lactose in the coldest months of the year justifies the higher milk production averages, since this disaccharide acts on the osmotic pressure of the mammary gland, increasing milk production. There was no difference in fat (%) and total solids (%) between seasons ($P > 0.05$). However, the productivity of dairy cows of the Holstein breed was higher in the winter and spring months, as well as the percentage of lactose.

Keywords: climate, milk quality, productivity, thermal stress

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