

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

PRODUCTION AND COMPOSITION OF HOLSTEIN COW'S MILK IN RELATION TO PARITY

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A productive dairy cow nowadays not just means a high volume producing cow, but also an animal that lasts in the herd and produce high quality milk. Said that and considering the mean life of dairy cows in Brazil being less than 5 lactations in pasture and semi-confined systems, it is desirable to obtain good volume and quality through all lactations. Therefore, this study aimed to evaluate the relationship between parity and milk yield and quality based on a 10 years database. The database was built from the milk recording done at the milk unit at the experimental farm of the Universidade de Maringá, located in Iguatemi-PR. The animals were kept semi-confined and fed with concentrate and minerals in proportion to the milk production. 60% of the diet was composed of pastures of the genus *Cynodon* with supplementation of corn silage all year long. The database contained 1260 observations, and the following variables: somatic cell score (SCC), milk yield (MY), milk yield corrected to 4% fat (MYC), protein (P), fat (F), lactose (L), total solids (TS). The experimental design was completely randomized, with 622, 299, 235, 77 and 27 experimental units divided in 1 to 5 parities, respectively. Fat values range from 3.31 to 3.88, protein from 3.21 to 3.38 and total solids from 12.15 to 12.59. Database was analyzed with SAS statistical software (Statistical Analysis System, 9.4), by the GLM procedure. At first, the database was edited to delete inconsistent data according with the standard values of the variables. Tukey's test was performed to evaluate the differences between the means. According to the Tukey's test, milk yield and milk yield corrected to 4% of fat did not present significant difference between the lactations 1 to 5. But for fat and total solids was observed in general an increase as the number of lactations advanced. The same was observed for SCC ($P < 0.05$), with higher means at the fourth and fifth lactation, because older cows have been more exposed to mastitis pathogens, while primiparous cows had less exposure. Lactose (mean values 4.6, 4.53, 4.49, 4.51, 4.53 from parity 1 to 5), considered the most stable milk constituent in the milk, had significant difference, with a decrease from the first to the fifth lactation ($P < 0,05$). According to the results presented, although the milk composition improved through the lactations, the SCC also increased.

Keywords: lactation, milk quality, milk yield

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