

DECREASING MILKING FREQUENCY IN EARLY LACTATION REDUCES MILK YIELD AND ALTERS MILK COMPOSITION IN PRIMIPAROUS DAIRY COWS

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Reducing milking frequency might alleviate the negative energy balance (EB) that occurs immediately postpartum. However, it can also reduce milk yield and alter milk composition. Thus, the aim this study was to evaluate the impact of reducing milking frequency in primiparous dairy cows during early lactation on milk production and composition. Twenty primiparous Holstein-Friesian cows (594.7±57.2 kg live weight (LW)) were blocked by expected calving date, LW, backfat thickness and body condition scoring. Animals were arranged in a randomized complete block design and two treatments were applied: once (T1) or twice (T2) daily milking through the first 8 weeks of lactation (treatment period). Thereafter, all cows were milked twice daily until 12 weeks of lactation (residual period). The cows were fed with a total mixed ration (TMR) composed buy corn silage, soybean meal, ground corn, urea and minerals, and grazed oat pasture (*Avena Sativa L.*) totaling 20 kg of DM/day, during 18 hours per day on daily plots. Milk yield was recorded daily using an electronic device. Milk samples were taken at each milking through 2 days per week for analysis. Energy-corrected milk for 4% as well was calculated with NRC equation. Milk yield during the treatment period was lower ($P<0.05$) in cows milked once daily, compared to milked twice daily with 15.0±0.7 vs 24.22±0.7 kg/d for fat-uncorrected and 16.97±0.6 vs 23.05±0.6 for fat-corrected milk, whereas during the residual period were similar ($P>0.10$) for both groups with 24.3±1.5 kg/day for fat-uncorrected and 21.66±0.97 for fat-corrected milk. Milk fat content was higher ($P<0.05$) for T1 group during both treatment (4.88±0.13 vs 3.75±0.13 %) and residual period (3.49±0.12 vs 3.09±0.12 %). Milk protein content was not affected by milking frequency ($P=0.8436$) with 3.35±0.04 vs 3.34±0.04 %, and the milk lactose concentration was lower ($P<0.05$) with 4.78±0.05 vs 5.07±0.05 %, for T1 group during the treatment period. In residual period, milk protein and lactose content were not different. Fat yield, was affected ($P<0.05$) during treatment period in cows milked once-daily, resulting in decreased this component. Protein and lactose yield were less ($P<0.05$) for T1 group during treatment and residual period. In conclusion, decreasing milking frequency, decrease milk yield and milk lactose content and increasing milk fat concentration of primiparous dairy cows during the first 8 weeks of lactation. However, the increased of components content with once-daily milking does not compensate the decreases components yield.

Keywords: milk synthesis, once-daily milking