Impact of lactation number, reproduction status and milk yield on inline progesterone concentration

Ramūnas Antanaitis, Dovilė Malašauskienė and Mindaugas Televičius

Lithuanain University of Health Sciences, Tilžės str 18, Kaunas, Lithuania
Corresponding author: Ramunas Antanaitis ramunas.antanaitis@lsmuni.lt

The aim of our study was to evaluate impact of lactation number, reproduction status and milk yield on inline progesterone concentration. Total of 624 cows were selected (293 primiparous and 331 multiparous Lithuanian Black and White dairy cows from three to six years old). According to their reproductive status the cows were classified as belonging to the following 9 groups. For milk progesterone detection the fully automated real-time progesterone analyser Herd Navigator (Lattec I/S. Hillerød. Denmark) was used in combination with a DeLaval milking robot (DeLaval Inc., Tumba, Sweden). The highest progesterone concentration in multiparous cows - from 1.08% (11-17 days postpartum) to 34.89% higher compared to cows of the first parity. Lowest progesterone concentration in the milk of all cows were estimated during the first five postpartum days and between 18 and 23 days after calving. Peak milk progesterone concentration were evaluated in the first stage of the experiment at day 24-29 after calving. In the 30-65 days after calving, the level of milk progesterone was 2.02-2.08 times higher compared to the 24-29 days postpartum. After insemination, the level of progesterone in milk increased by 10.77-22.54% compared with cows on 30-65 days after calving. A higher (12.88%) concentration of progesterone in milk was evaluated in multiparous cows compared with cows of the first parity. In pregnant cows, milk progesterone within 0-45 days after insemination was 23.88% (in multiparous cows) and 32.54% (in primiparous cows) higher than in non-pregnant cows.