

THE EFFECT OF SOMATIC CELL ON MILK YIELD AND MILK FLOW AT QUARTER LEVEL

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Abstract. The objective of our study was to describe the effect of SCC at quarter level in different stages of lactation and front/rear position on milk yield and other parameters of milkability. A total of 62 Holstein cows, in their first to third lactation, different stages of lactation and free of clinical symptoms of mastitis, were investigated. On the base of SCC the quarters were divided into three groups: low (under 200 000 per ml), middle (SCC in range between 200 000 – 400 000 per ml) and high (over 400 000 per ml). The course of lactation was divided into three groups: first (first and third month), second (fourth and sixth month), and third (seventh and more months of lactation). For the statistical evaluation three groups of cows were selected. In the first group the effect of SCC between two quarters with low and contralateral middle SCC was tested. Thus 16 cows with 178 pairs of quarters were tested. In the second group the effect of SCC between two quarters with low and contralateral high SCC was tested. Thus 14 cows with 198 pairs of quarters were tested. In the third group, only cows with low SCC per all four quarters (17 cows and 188 pairs of quarters) were selected for testing – low quarter with contralateral low quarter on milk yield only. The milk yield was significantly reduced in high quarters as compared to contralateral low quarters. The tendency of lower milk yield in middle quarters was spotted when compared with contralateral low quarters. No milk yield differences were recorded between low quarters and contralateral low quarters. The SCC reduced milk yield in affected quarters as compared with contralateral quarters with low SCC. The reduction depended on the level of SCC in milk of that quarter. In conclusion, comparison of healthy quarters (low SCC) and contralateral quarters with higher SCC showed that the SCC reduced milk yield in the mentioned quarters. The reduction depended on the level of SCC in milk of a contralateral quarter.

Keywords: dairy cows, somatic cells, milk yield, quarter.