Chemical composition of milk with different somatic cells count

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The SCC of milk cooling tanks is a valuable tool in assessing the level of subclinical mastitis in the herd, which can’t be diagnosed visually. Levels above 300,000 cells/mL indicate abnormal condition of the udder; once some the milk with a low somatic cell count has superior quality. The objective of this study was to evaluate the influence of SCC on the physicochemical properties of milk. Milk was collected and analyzed for somatic cell count, fat, lactose, acidity, total solids, ash, total nitrogen. Means were subjected to analysis of variance and Scott-Knott test (p <0.05) in the software R®. Milk was divided into four groups according to the value of SCC, each constituting a treatment, as follows: Treatment 1 (<300,000 cells/ml), Treatment 2 (300,000 to 750,000 cells/ml), Treatment 3 (750,000-1,000,000 cells/ml), and Treatment 4 (>1 million cells/ml). The results obtained respectively for "T1", "T2" and "T3", "T4", were: % protein (3.16a; 3.16a; 3.18a; 3.10a), % fat content (3.58a; 3.84b; 3.84b; 3.88b), % ash (0.68a, 0.70a, 0.71a, 0.72a) titratable acidity (g/100 g) (0.15a, 0.15a, 0.15a, 0.14a) TS (12.27a; 12.56a; 12.71a; 12.80a) solids-not-fat (8.69a; 8.71a; 8.92a; 8.87a) and lactose (4.58a; 4.63a; 4.49a; 4.51a). There were no significant differences (p>0.05) in concentrations of total solids, solids-not-fat, ash, acidity, lactose and total protein among treatments. The concentrations of total solids, although not statistically significant, tended to increase as SCC increased. An increase in fat content (p<0.05) was observed between groups of somatic cells when associated with an increase in the values of SCC.