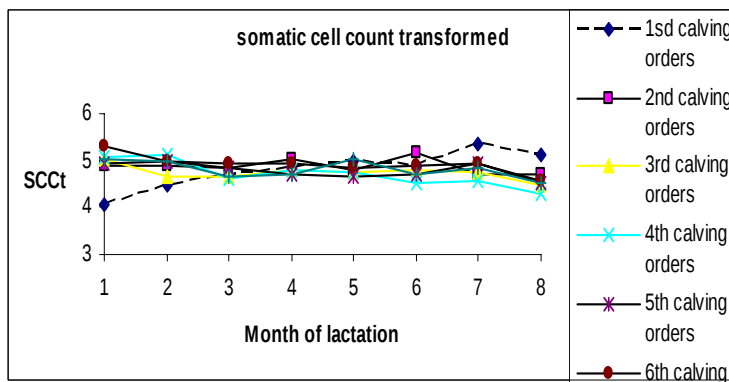
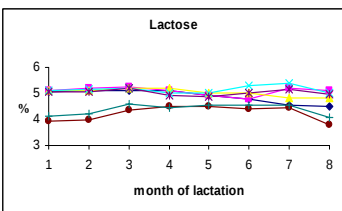
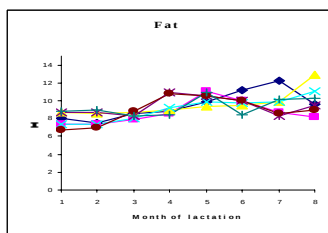
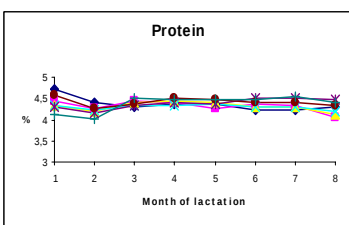
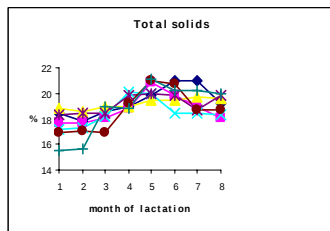
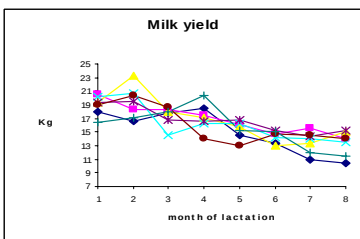


Relations of Somatic cell counts with milk yield and milk constituent In buffalo cows**F. Sarubbi, R. Baculo, L. Ferrara**

INTRODUCTION: The increasing economic relevance of the Italian buffalo lies in the absence of production quotas in the CEE and, above all, in the high market demand of mozzarella cheese, which results in a price of buffalo milk that is more than double the price of cow milk. A problem that is of primary importance is possible intramammary infection. This infections may negatively affect reproductive function because of gram-negative endotoxin and various cell mediators influenced negatively endocrine function. The inflammation of the mammary gland can be characterized by an increased number of somatic cell count (SCC) in the milk. Cerón-Munoz M. et al. (2002) reported that SCC has a negative effect on milk and lactose yield in buffaloes, causing losses to producers due to reduced milk production and quality. Harmon (1994) and Kitchen (1981) have shown no change in fat content, but found a decrease in total fat yield because of a decline in milk production, moreover Harmon (1994) have shown elevated SCC are associated with a decrease in lactose because of reduced synthetic activity of the mammary tissue. Weaver and Kroger (1977) and Ng-Kwai-Hang et al. (1982) have observed a significant increase in total protein as SCC increased. Tonhati Y. Et al. (2001) reported that the when the content SCC increased the lactose content reduced. The objective of present investigation was to study the relationship the SCC with the production of milk and of its constituents (protein, lactose, fat, total solids) during lactation in buffalo cows.

MATERIALS AND METHODS: A total of 210 records concerning daily MY, percentages of fat (%F), protein (%P), lactose (%LT), total solids (%TS) and SCC were analyzed. The 220 lactations Mediterranean buffalo cows were observed. The animal were fed a total mixed ration of 22 kg of DM/day/head consisting of (% of DM): corn silage (37.5%), concentrate (43.9%), barley straws (18.6%). The data for MY were obtained from two automatic milking (0500 and 1700 h). The milk constituents were obtained from morning milking and analyzed by infrared method Milko scan 133B. SCC was determined by fluoro optometric method (Fossomatic 90). SCC was log₁₀-transformed before analysis because the SCC were not normally distributed. The mixed model methodology was used according to a repeated-measure scheme, as well as the restricted maximum likelihood method available in the SPSS package . The analysis of milk yield and milk constituent percentage was carried out according to the mixed model method.

RESULTS and DISCUSSION: Analysis of milk yield and % of fat showed highly significant differences for month of lactation ($p < 0.01$), % of fat was significant for calving year ($p < 0.01$). For protein nothing effects were significant. For lactose the calving years and months of lactation were significant ($p < 0.01$). ANOVA applied to MY showed that the month of lactation was significant ($p < 0.01$). The figures showed the relationships of the month of lactation and SCCt, MY, P, F, Lac and TS by parity. In the first parity, the SCCt was lower than in all other parities, is was more after fourth months of lactation, particularly from 7th was more high than other calving order. MY was greater in the second month of lactation, except for the 6th and 7th calving orders, and then decreased. in the 6th and 7th calving orders were greater in the third month of lactation and then decreased. The peaks of %fat, % protein and % lactose occurred in the 9th, 1st and 3th months of lactation, respectively, in agreement with literature reports. The % TS increased in the 5th month of lactation. The regression for SCCt showed highly significant differences in the 2nd and 5th and 7th months of lactation for MY ($p < 0.01$) with negative regression coefficient (β) for SCCt indicating a reduction in milk yield. The regression of SCCt on %F was significant only in the 4th and 7th months of lactation ($p < 0.05$); on %P and TS only in the 7th month of lactation.



CONCLUSION: The result showed that high SCC has a negative effect on MY and on quality in the buffalo cows. We can concludes that the hygienic quality of milking and hygienic treatments of the mammary gland reduced the infection and improve the quality of milk and products offered in the popular market.