

**TITLE:** MICROBIOLOGICAL AND PHYSICO-CHEMICAL QUALITY OF BOVINE COLOSTRUM OF A PROPERTY OF ÁGUA DOCE, SANTA CATARINA

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### **ABSTRACT**

The panorama shows that the Brazilian nutritional potential value of foods is not tapped in its entirety and that many of them are discarded through ignorance and prejudice. The use of some traditional foods can reduce the waste, with recovery and transformation products. The bovine colostrum milk stands out for its nutritional, therapeutic properties and has high amounts of immunoglobulins, being a potential source of human antibodies. Bovine Colostrum is the first milk secreted by cows after calving, being produced for approximately three consecutive days. Knowledge of microbiological and physical-chemical parameters of colostrum are key to making the use of this material in animal feed and human. The objective of this study was to evaluate the sanitary hygienic condition of colostrum produced in a property in Água Doce, Santa Catarina. Analyzed 10 samples of bovine colostrum coming from Água Doce Santa Catarina in the months from March 2016 to Mai 2017. The bovine colostrum was collected on the second day after birth the calf and sent to the analyzed. Microbiological analyzes were most likely number of total and fecal coliforms, bacteria aerobic mesophilic and psychrotrophic (CFU / mL), *Staphylococcus aureus* (CFU / mL) and lactic acid bacteria (CFU / mL). Physicochemical analysis was performed acidity, protein, soluble solids, pH, fat and density. Mesophilic aerobic bacteria counts ranging from  $2.5 \times 10^2$  to  $1.0 \times 10^4$  CFU / g, psychrotrophic between  $1.0 \times 10^1$  to  $2.0 \times 10^2$  and lactic acid bacteria of  $2.5 \times 10^2$  to  $6,0 \times 10^3$ . *Staphylococcus aureus*, total and thermotolerant coliforms were not detected in bovine colostrum milk. The pH ranged from  $6.5 \pm 0.1$ , acidity of  $38,5 \pm 0,1$  °D, density of  $1.053 \pm 0.2g / L$ , fat of  $6.2 \pm 0.2 g / 100g$ , protein of  $15.3 \pm 0.4g / 100g$  and the soluble solids content of  $21.2 \pm 0.3$  ° Brix. The results obtained allowed to conclude that the microbiological and physical-chemical composition of bovine colostrum assisting the limits proposed by the effective legislation, provided that the best practices of production are obeyed. Knowing the microbiological and physical-chemical composition of the colostrum indicates the possibility to development new products to human feeds.

**Keywords:** Microbiological analysis, physicochemical analysis, functional food, new products.

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