

## MICROBIOLOGICAL CHARACTERISTICS MILK AND SERUM AS RAW MATERIALS FOR PRODUCTION OF DRINK MILK

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### **Abstract:**

The final quality milk products is determined by the quality of their raw material, so each processing step is determined by the quality of the previous step . Milk and whey are foods with complex physical - chemical and nutritional properties, and may have various technological applications. The whey is 80 to 90 % of the total volume of spent milk for cheese production, however, it is considered as waste for many food industries. The goal of this study was to evaluate the microbiological parameters pasteurized milk and whey, which were used as raw material for the production of milk drink in Agribusiness Dairy and Vegetable of Universidade Federal de Santa Maria – Campus de Frederico Westphalen/RS. Were analyzed microbiological variables of mesophilic aerobic count, molds, yeasts, lactic bacteria, enumeration all fecal coliforms and thermotolerant. In all evaluation serum showed higher values , in the count of lactic acid bacteria, the results were  $3,7 \times 10^4$  UFC/mL<sup>-1</sup> for serum and  $8 \times 10^4$  UFC/mL<sup>-1</sup> for milk. As for the enumeration of total and fecal coliforms, met  $1,1 \times 10^3$  NMP/mL<sup>-1</sup> and  $2,9 \times 10^3$  NMP/mL<sup>-1</sup> of total coliforms for serum and milk, respectively, and  $>1,1 \times 10^2$  NMP/mL<sup>-1</sup> for serum and  $0,36 \times 10^3$  NMP/mL<sup>-1</sup> for the coliform milk thermotolerant coliforms. With respect to total aerobic mesophilic counts for milk, the values were within the established by law, while serum samples showed high score,  $6,65 \times 10^4$  UFC/mL<sup>-1</sup>. For yeasts and molds parameter, the count was  $4,1 \times 10^3$  UFC/mL<sup>-1</sup> for serum and  $5 \times 10^3$  UFC/mL<sup>-1</sup> for milk. Therefore , pasteurized milk presented results that qualify as a great raw material for use in the production of milk drinks and other derivatives while the whey obtained from cheese processing from the same batch of milk evaluated, presented results showing that for use as a raw material is necessary to heat treatment prior to minimize contamination acquired during manufacturing of the cheese, as well as improvements on the steps of obtaining and processing to ensure better conditions to the final product. However, it should be emphasized the absence in Brazilian legislation for whey standards that affect the evaluation of the quality of the product.

**Keywords:** dairy products, microbiological quality, whey