

TITLE: EVALUATION OF BIOFILM FORMATION BY *Staphylococcus aureus* ISOLATED IN COWS MILK AND ASSOCIATED TO MORPHOMETRIC MEASURES OF UDDER

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ABSTRACT:

Microbiological contamination of milk is related to the presence of microorganisms producing biofilms. The aim of this study was to evaluate the formation of biofilms by bacteria isolated from refrigerated raw milk and to associate them with the measurements of the mammary system in order to observe whether the microbiological quality of the milk may be related to these measures. Twenty samples of raw milk from two farms in Ilhéus-BA, from non-reactant and reactant California Mastitis Test animals, were collected. Measurements were also made of: Anterior Udder Height (AUA), Posterior Udder Height (AUP), Total Udder Width (LTU), Anterior Teat Height (ATA), Posterior Teat Height (ATP), Anterior Teat Width (LTA) and Posterior Teat Width (LTP) performed individually on the animals on the right and left sides using the tape measure. The samples were then sent on ice to the microbiology laboratory of the veterinary hospital of the State University of Santa Cruz where microbial isolation was obtained by culturing the milk samples in Trypticase Soy Agar, MacConkey Agar and Sabouraud Agar, and biofilm formation analysis were performed by the plaque counting test and the microplate test. As a result it was observed that there was isolation of *Staphylococcus* sp in all samples and all showed counts above 10^5 Colony Forming Units under biofilm conditions in addition to all strains producing biomass in the microplate assay. It was also observed that there was no difference in the microbiological quality with the zootechnical / morphometric measurements of the udder. It is concluded that microorganisms present a great risk to public health since the biofilm allows the persistence of microorganisms in the milking environment contaminating the milk that will be consumed by the population and also acts as a source of microorganisms for the animals.

Keywords: Bovine, Mammary gland, Microorganisms, Milk.