BIOFILM PRODUCTION BY *Staphylococcus chromogenes* ISOLATED FROM MILK SAMPLES FROM BOVINE WITH MASTITIS

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ABSTRACT:

Bacteria belonging to the genus *Staphylococcus* sp. are the most prevalent pathogens associated with mastitis in lactating cows. The present study has as objective to identify the occurrence of the genus *Staphylococcus* in cows with mastitis coming from cattle of the state of Acre, and to evaluate the capacity of biofilm production by *S*. *chromogenes* species. Were selected 10 dairy farms with a history of decline of production. Firstly, a clinical examination of the mammary gland was accomplished, followed by the *California Mastitis Test* (CMT) for the identification of animals with subclinical mastitis. Once the mastitis was diagnosed, milk specimen were collected and seeded in blood agar at 37 ° C, 24-48 hours. The initial identification of the isolates was performed by colonial morphology, GRAM's, catalase test and tube coagulase test. After the first identification, the suggestive samples of *Staphylococcus* were submitted to the MALDI TOF technique (Matrix Associated Laser Desorption-Ionization - Time of Flight - Mass Spectrometry). The characterization of the biofilm production was quantitatively assessed by absorbance, determined at 490 nm in an ELISA's reader. A total of 135 crossbred cows were studied, and 162 milk samples were collected from 67 cows identified with mastitis. Were isolated one *S. aureus*, one *S. kloosii*, one *S. xylosus*, one *S. auricularis*, five *S. saprophyticus*, three S*. epidermidis*, four S*. haemolyticus*, three *S. hycus*, 36 *S. chromogenes*, five *S. Chromogenes* or *S.hycus*. The *S. chromogenes* species corresponded to 60% of the isolates of the genus. A high percentage of *S. Chromogenes* were biofilm producer (83.33%). The identification of these microorganisms is important for the elucidation of the etiology of bovine mastitis. The high percentage of biofilm-producing *Staphylococcus chromogenes* isolated from cows with subclinical mastitis is an important discovery and can reveal a change in the profile of the colonization for the etiological agents that cause this disease.

Keywords: bovine mastitis, MALDI TOF, biofilm, *Staphylococcus chromogenes.*

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