

## **EPIDEMIOLOGICAL PROFILE OF *Staphylococcus aureus* BIOFILMS PRODUCERS FROM MILKING ENVIRONMENT AND COWS WITH SUBCLINICAL MASTITIS**

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### **Abstract**

The knowledge of molecular profile of *Staphylococcus aureus* pulsotypes enables epidemiological studies of dispersal of this pathogen on farms. Thus, strategies and protocols prophylaxis and control of mastitis can be better prepared. The aim of this study was to evaluate the epidemiological profile, resistance to antimicrobials and the presence of genes for biofilms production in *Staphylococcus aureus* strains from milking environment and cows with subclinical mastitis. Pulsed-field gel electrophoresis were performed, polymerase chain reaction and sensitivity testing of bacteria to antimicrobials in previously isolated and characterized strains, coming from milking environment and cows with subclinical mastitis. Fifteen (68%) of a different pulsotypes from a total of twenty two pulsotypes were identified, and of these, eleven (50%) were derived from milk, four (18%) of blowers, three (14%) of the hands of milker, one (4,5%) of milk rubber, one (4,5%) of the milk balance tank, one (4,5%) of the surface of the milk expansion tank and one (4,5%) of the milk expansion tank. All twenty two (100%) had the *icaD* genes, *agrA*, *clfA*, *clfB*, eighteen (82%) had the *hla* gene and one (4,5%) had the *bap* gene. For bacterial resistance against antimicrobial agents was observed that all twenty two (100%) were resistant to penicillin, twenty one (95%) were resistant to clindamycin, twenty (91%) were resistant to erythromycin and seventeen (78%) were resistant to oxacillin. Results about the pulsotypes is that it occurred the same pulsotype isolated from milk conductive hose was also isolated from the blowers, another pulsotype was isolated from the milker's hand and was also isolated from the surface of the expansion tank and another pulsotype was isolated from the milker's hand and from the blowers. We conclude that the hand of milkers was a crucial factor in the spread of some pulsotypes in the milking environment and these strains biofilm producers facilitates their permanence in the environment; therefore it is recommended training and capacitation of milkers to improve the milk quality.

**Keywords:** hygiene; milkers; slime.

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