

**EVALUATION OF THE ACTIVITY OF CRUDE EXTRACT OF *Croton antisiphiliticus* ON
THE REMOVAL OF BIOMASS *Staphylococcus aureus***

(*AVALIAÇÃO DA ATIVIDADE DO EXTRATO BRUTO DE Croton antisiphiliticus NA
ERRADICAÇÃO DA BIOMASSA DE Staphylococcus aureus*)

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Staphylococcus aureus is the most prevalent etiologic agent of bovine mastitis, the main disease affecting dairy herds. Among the virulence factors of this pathogen is the ability to form biofilms, made of bacteria adhered to a surface enclosed by an array of organic polymers, that confers high resistance to antibiotic action (COSTERTON et al., 1999). Recent studies have demonstrated significant activity of plant compounds on bacterial biofilms (COBRADO et al., 2013). This study aims to evaluate the potential of chloroform extract of *Croton antisiphiliticus* to remove the *Staphylococcus aureus* biofilm isolated from milk from animals with bovine mastitis. The chloroform extract was prepared from the root of *Croton antisiphiliticus* at a concentration of 5 mg/mL. Gentamicin sulphate (30 mg/ml) was used as a comparison due to its wide commercial use. For the formation of biofilms 10 strains were standardized (10^5 UFC/mL) and incubated at 37°C for 24 hours under agitation (120 rpm) in 96-well plates. The plates were washed with 0.9% saline solution, followed by addition of 100mL extract and incubated for 24 hours in the same conditions. The biomass was measured using the crystal violet technique for further spectrophotometer reading (492 nm) (Gomes, 2010). The results were expressed as percentage and the inoculum (treatment-free) was used as a positive control (100% adhesion). The results showed that the studied extract removed an average 28.5% of the biomass at a concentration of 5mg/mL while gentamicin removed 14% at a concentration of 30mg/mL. Therefore, the *Croton antisiphiliticus* extract has shown considerable ability to remove the *S. aureus* biomass under the conditions tested, especially when compared to widely used antibiotics to treat mastitis in cattle. Further studies are required in order to identify substances of vegetable origin with promising therapeutic potential.

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