Evaluation of antimicrobial activity of essential oil of *Alpinia speciosa* (Alpinia) against *Staphylococcus aureus* strains isolated from bovine mastitis and resistant to penicillin and neomycin.

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The decrease in therapeutic efficacy of antimicrobials and the increased of resistant microbial in animal production have stimulated the search for new strategies to control mastitis. In this context, *Staphylococcus aureus* is the most commonly isolated agent in bovine mastitis and difficult to eradicate by conventional antimicrobial therapies. Therefore, the objective of this study was to evaluate the antimicrobial activity of essential oil of *Alpinia speciosa* (Alpinia) against nine strains of *Staphylococcus aureus* resistant to neomycin and five strains resistant to penicillin. This resistance profile was previously determined by the diffusion test disk. The oil concentration was assessed in the range of 1.0 to 0.015 mg/ml and the minimum inhibitory concentration (MIC) was calculated using microdilution method (CLSI, 2005). The antibiotic gentamicin and ciprofloxacin were used as control in the maximum concentrations of 0.5 mg/mL. The results show that the essential oil of *A. speciosa* inhibited all strains tested at MIC values from 0.062 to 0.5 mg/mL. Most strains resistant to neomycin (91%) and penicillin (60%) were inhibited in a concentration of 0.250 mg/ml oil. These results indicate that the essential oil of *A. speciosa* can be an effective alternative to control strains of *S. aureus* causing mastitis, but the activity of this antimicrobial agent and its effectiveness in milk requires further investigation. Despite the potential results obtained are necessary further studies in order to determine the microorganisms resistance to the oil and its main active compounds.