

Antimicrobial susceptibility of *Staphylococcus aureus* strains against organic acids

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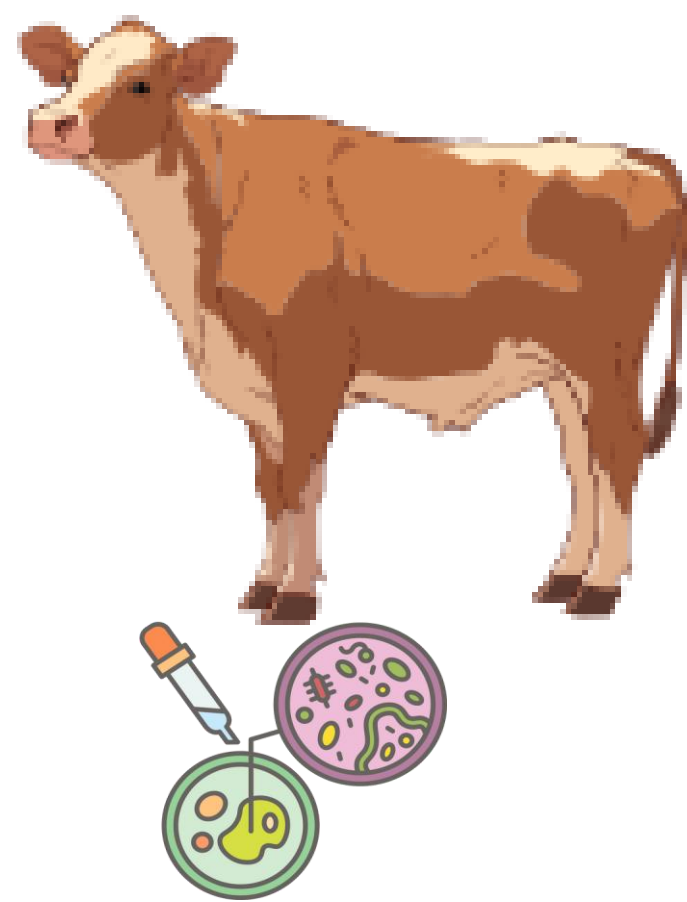
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INTRODUCTION & AIM

Staphylococcus aureus is a pathogen that produces toxins associated with clinical and food-borne diseases. For that reason, it is crucial to monitor and control this microorganism during food production and industrialization to ensure food safety and protect consumers' health [1-2].

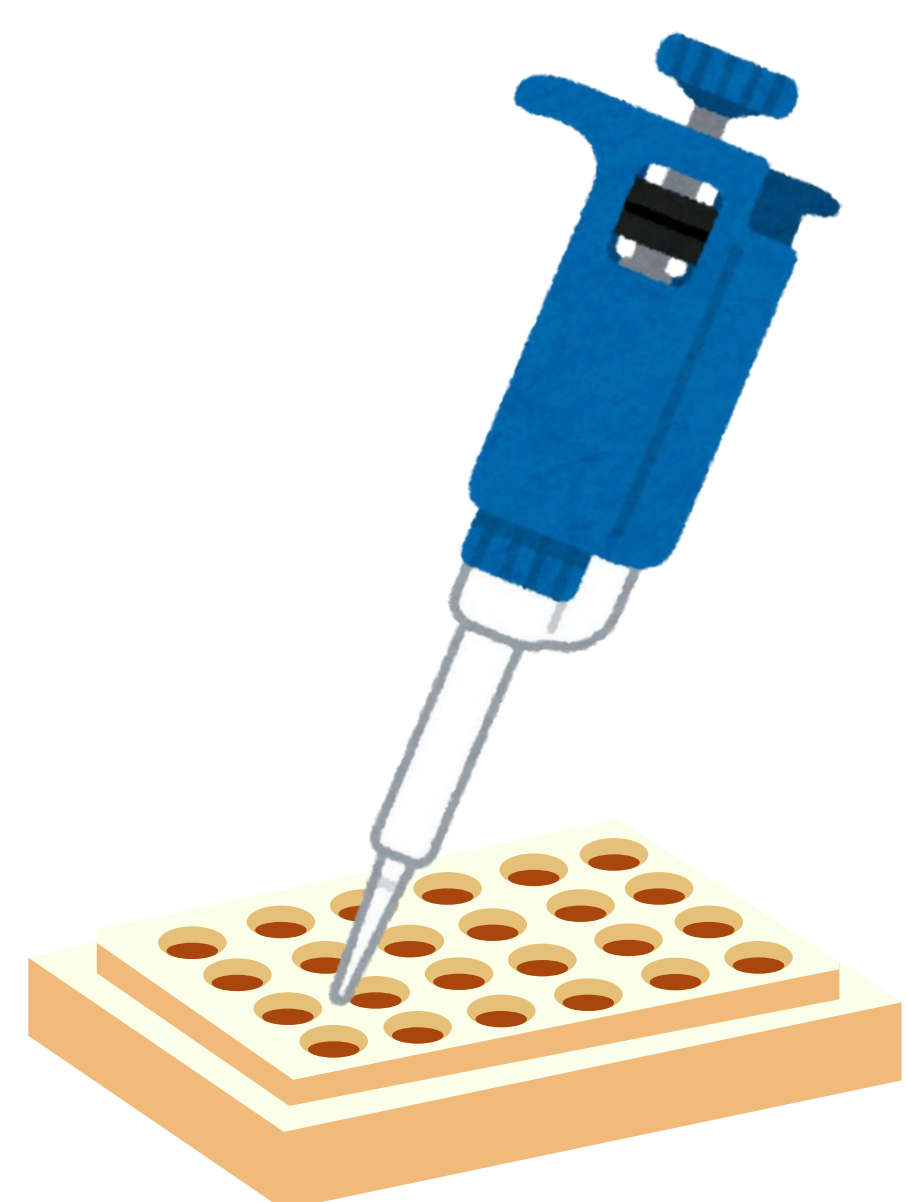


In light of increasing concerns about bacterial resistance and its impact on public health, organic acids are being considered as potential alternatives to antimicrobials in livestock production [3-4].

This study aimed to investigate the susceptibility of *S. aureus* to a blend of organic acids (Acidal ML® - Impextraco NV) in vitro and in a controlled environment by assessing the Minimal Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) of the product.

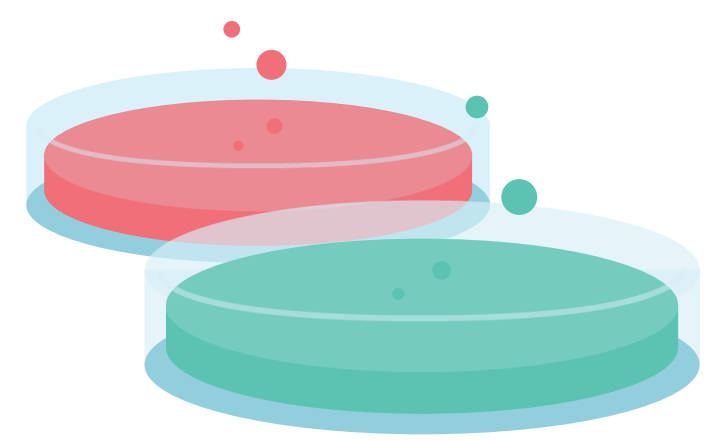
METHOD

The recommended prescription of Acidal ML® is 0.1% in vivo, but we tested amounts of 0.0125%, 0.025%, 0.05%, 0.10%, 0.20%, 0.25%, and 0.30% in 96-wells microplates using Muller Hinton Broth and 18-hours strains in Brain Heart Infusion (36°C) and thinned until 0.5 on the MacFarland scale.



RESULTS & DISCUSSION

In this way, the results appointed a MIC and MBC of Acidal ML® against the tested *S. aureus* strain of 0.1% and 0.25%, respectively.



CONCLUSION

In conclusion, the concentration recommended by the product's label proved effective in inhibiting bacterial growth, although a higher amount was necessary for a bactericidal effect. The dosage must be tested in vivo for better comprehension.

ACKNOWLEDGMENTS

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