TITLE: Activity of immobilized mycocins in the treatment of water contaminated with fecal coliforms.

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ABSTRACT: Mycocins are glycoprotein compounds secreted by some yeasts with activity in various microorganisms. *Escherichia coli* is the predominant bacteria of the coliform group, its presence in water indicates fecal contamination and it is used as an indicator for microbiological water analysis. Immobilization of cells and substances shows great potential for biotechnological applications in several areas. The objective of this work was to evaluate the antimicrobial activity of immobilized mycocins, obtained from *Wickerhamomyces anomalus*, against fecal coliforms present in water samples contaminated with feces. The mycocins were immobilized at different concentrations of sodium alginate and calcium chloride. After 48 hours, 100% of fecal coliforms present in water contaminated with feces were inhibited by the immobilized mycocins. The concentration of sodium alginate influenced the shape of the granules obtained in the immobilization and the calcium chloride in the time of activity of the mycocins, and the mycocins immobilized with 2% sodium alginate and 0.2 mol / L CaCl2 presented better antimicrobial activity against coliforms. In this study, immobilized mycocins were able to inhibit fecal coliforms, especially *Escherichia coli* present in water samples contaminated with feces. These results demonstrate a direct application of immobilized mycocins as new alternatives to improve water quality and sewage effluents.

Keywords: Fecal coliforms, mycocins, *Wickerhamomyces anomalus.*

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