# PHYSICO-CHEMICAL PROPERTIES OF CHICKEN FEET GELATIN INCORPORATED WITH LEMONGRASS EXTRACT

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## ABSTRACT

### PHYSICO CHEMICAL PROPERTIES OF CHICKEN FEET GELATIN INCORPORATED WITH LEMONGRASS EXTRACT

Chicken feet gelatin, derived from collagen-rich tissues of chicken feet presents an emerging alternative to commercially available mammalian gelatins. However, its properties require modification to optimize functionality for diverse applications. Lemongrass extract, boasting antioxidant properties, emerge as a promising natural modified for chicken feet gelatin. This study aim to analyse physico chemical properties of chicken feet gelatin incorporated with lemongrass extract . This study was conducted to determine the functional group of incorporated film with lemongrass extract using FTIR and to evaluate yield of chicken feet gelatin, pH, film thickness, water solubility, moisture content and mechanical properties of the incorporated film with lemongrass extract. In this study, the FTIR spectrum showed peaks at NH group coupled to OH group through hydrogen bonding for amide A, CH stretching for amide B, C=O strain for amide I, CN stretching and NH ending vibrations for amide II and III. The pH was indicated for all incorporated film was 7. The yield of chicken feet gelatin obtained is 14.92%. The moisture content observed is incorporated film with 30% LGE is 5.89%, the water solubility is 47.37% and the thickness obtained is 1.72 mm. For mechanical properties, the tensile strength obtained for incorporated film with 30% LGE is 7.970 MPa, elongation at break is 46.381% and young modulus observed is 2.874 MPa. Based on these finding, lemongrass extract could act as natural gel enhancer of chicken feet gelatin because it has the ability to enhance properties of the incorporated film for food packaging applications. Overall, this study is a preliminary study to see the effect of properties chicken feet gelatin incorporated with lemongrass extract at different concentrations.

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