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Proteins derived films for food packaging applications

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Spent hens is a poultry by-product, have limited disposal methods. In this study, proteins were extracted from spent fowl with high purity. These proteins were further modified using glycerol, chitosan and bentonite to increase the value of spent hen proteins. The objective of this work was the improvement of mechanical strength of the protein derived bionanocomposites films. The improvement in physical properties was observed by Transmission electron microscopy (TEM), Dynamic mechanical analysis (DMA), Differential scanning calorimetry (DSC) and Attenuated total reflectance- Fourier transform infrared spectroscopy (ATR- FTIR). The study revealed, addition of chitosan enhance the mechanical strength of derived films which can be further improved by bentonite. The thermal stability and water vapor permeability also improved due to the small amount of chitosan and bentonite. The results showed films have the ability to used for food packaging applications.

Biography

Zubair has completed his Master from University of Alberta in January 2017. Currently he is Ph.D candidate in the Department of Agricultural, Food and Nutritional Science, University of Alberta. He is working on the utilization of proteins - renewable resources for industrial processing and synthesis of bio-based polymers

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