

Natural Bioactive Compounds Loaded Eggshell Membrane from Waste Food Industry: Preparation and Characterization

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Objective: Eggshell membrane (ESM), a protein and collagen-rich membrane between the eggshell and egg white, has usually been regarded as waste and overlooked. However, its potential is now being highlighted in many industrial and technological applications. In the literature, natural bioactive compounds (NBCs) have been used together with various proteins.

Preparation and characterization methods of the eggshell and eggshell membrane are summarized

Various studies showed the utilization of eggshell membranes as an adsorbent, scaffold, wound dressing, and vascular graft. Due to the chemical composition of the eggshell membrane, its superior binding and adsorptive properties increase the stability of the bioactive compounds

This review focuses on the potential utilization of eggshell membranes as functional food and nutraceuticals.

Keywords: Biomaterial, waste, protein-polyphenol interactions, biopolymers, utilization, value-added products, health applications.