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Food applications of emulsion-based edible films and coatings

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Abstract

Background

An increasing awareness among consumers regarding the healthy lifestyle have prompted research on novel techniques of prolonging the shelf life of food products without the necessity of using preservatives. Thanks to their ability to improve global food quality, edible films and coatings have been particularly considered in food preservation. Changing mechanical and barrier properties depending on the main component in the biopolymer matrix caused an increasing interest in composite structures, which enable to explore the complementary advantages of each component as well as to minimize their disadvantages.

Scope and Approach

This review discusses the potential food applications of emulsified edible films and coatings. The materials, preparation methods, and physical properties are also presented. Lipids are usually added to edible films and coatings to impart hydrophobicity and thereby reduce moisture loss. A very wide range of lipid components is available including natural waxes, resins, acetoglycerides, fatty acids, and petroleum-based, mineral and vegetable oils. The emulsification process of the lipid phase in the aqueous phase is necessary prior to the coating application.