

# Characterization of quinoa protein-chitosan blend edible films

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Quinoa protein/chitosan films were obtained by solution casting of blends of quinoa protein extract (PE) and chitosan (CH). Films from a PE/CH blend were characterized by FTIR, X-ray diffraction, thermal analysis, and SEM. The tensile mechanical, barrier, and sorption properties of the films were also evaluated. The blend of PE with CH yielded mechanically resistant films without the use of a plasticizer. The film had large elongation at break, and its water barrier properties showed that they were more hydrophilic than CH film. The thickness and water-vapor permeability of PE/CH (v/v) 1/1 blend film increased significantly compared to pure CH films. CH films are translucent in appearance and yellowish in blend with PE. By blending anionic PE with cationic CH an interaction between biopolymers was established with different physicochemical properties from those of pure CH. Drying and sorption properties show significant differences between PE/CH blend film and CH film. The structural p