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Chapter 13

Proteins as Agricultural Polymers for Packaging Production

Showkat Ahmad Bhawani, Hasnain Hussain, Othman Bojo and
Sim Siong Fong

Abstract Proteins are natural heteropolymers and are most vital nutrients essential for human survival and life. Proteins generally exist in nature either in the form of fibrous proteins (water insoluble) or in the form of globular proteins (water soluble). Proteins are also available abundant in nature and are biodegradable. Proteins provide a broad spectrum of functional and structural properties because of the presence of polar and nonpolar amino acids and are therefore ideal raw materials for the production of bioplastics used for packaging materials. At present, a number of protein-based films are produced for the purpose of packaging of food. The protein based films possess some unique characteristics such as; excellent optical properties (gloss and transparency), are good fat barriers, at low and intermediate humidity possess an excellent oxygen and organic vapor barrier and have moderate mechanical properties. The contents of this chapter are as follows: introduction, proteins for packaging materials, processing methods, shaping agents, and properties.

Keywords Proteins Packaging materials Dry process Wet process

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