

THE APPLICATION OF CHITOSAN IN FOOD INDUSTRY

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Chitin is the second most abundant biopolymer after cellulose on earth and is an aminopolysaccharide that comes from the shells of shellfish. Chitin is highly hydrophobic and is insoluble in water and most organic solvents. Chitosan is obtained from chitin by a deacetylation process. It is derived from naturally occurring sources, which is the exoskeleton of insects, crustaceans and fungi that have been shown to be biocompatible and biodegradable. The application areas of chitosan include pharmaceutical and medical, waste water treatment, biotechnology, cosmetics, food processing, textile and agriculture. It has high potential for using in meat, vegetable, fruit and many other food products. It has attracted great attention in food industry as protective additive because it retains fat and water and because it has the capability to create color and increase the durability as well as having antibacterial and antifungal properties. The antimicrobial activity of chitosan has an important role in increasing the shelf-life of foods. It has also extended the shelf-life of especially meat products when successfully used as coating. However, it has high potential for purification of water, clarification of fruit juice and production of edible films. It is also used as a protective barrier for moisture loss from foods such as bread and eggs. Moreover, it acts as an emulsifier on products such as sausages and mayonnaise. This review summarizes the applications of chitosan in food industry.

Keywords: Chitosan, food, edible films, shelf-life

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