Natural Additives in FISH PROCESSING

Edited by: Dr. Viji Pankamma and Prerna Pandey
Natural Additives in Fish Processing

Despite the fact that fish is a highly nutritious and delicious muscle food commodity, it is highly perishable and hence, the use of preservatives for maintaining the quality of fish and fish products is unavoidable. Worldwide, researchers are exploring natural additives based on plant and animal origin for food applications and many of them have been successfully demonstrated to increase the shelf life of fish products. In addition to the preservative effect, some of the natural additives can also modify the sensory attributes and functional properties of the fish protein. This book is intended to provide an overview of various naturally derived compounds being used as a preservative/additive in different fish or fish products.

Microbial growth and fat oxidation are the major reasons for the rapid deterioration of fish quality. A vast number of natural antimicrobial compounds from plant sources have been identified over the years. Antibacterial compounds from microorganisms are also receiving much importance in the recent years. Chapter 1 gives an overview of safe and effective natural antimicrobial compounds and its application in different seafood products. Chapter 2 provides a brief account of the importance of fish lipids, the oxidation process, natural antioxidant compounds, its mechanism of action and its usage in fish and fish products. Development of active packaging material with the addition of antioxidant/antimicrobial compounds for delaying the spoilage of fish products is a widely encouraged technique. Chapter 3 gives a detailed description of antimicrobial packaging derived from natural sources. Chitosan is an extensively studied biopolymer because of its diverse biological activities useful for food applications. Chapter 4 discuss in details, the usage of chitosan and its derivative as an additive in the fish processing industry. Gelatin is also an important polysaccharide of different functional food applications.

Even though not much, the fish processing industry also requires colorants, especially for imitation products. The adverse health impact of synthetic coloring and flavoring agents are well documented and hence, exploring natural colorants and flavors is the need of the hour. This book also provides a review of the naturally available additives being used in the fish processing industry for the purpose of modifying the color of the seafood products in 5th Chapter. The book also intended to provide detailed information on gelatin, an important natural polysaccharide and for food applications in chapter 6. Finally, in chapter 7, we are trying to emphasize the influence of natural ingredients on the sensory properties of fish during processing or storage. In a nutshell, the book describes the potential of a range of natural ingredients to expand their preservative or other functional advantages in fish and fish products.

In near future, the synthetic additives will definitely be replaced by its natural counterparts. The book may be used as a reference for the students and academicians in the field of food technology with specialization in fish processing in graduate, undergraduate and postgraduate levels. Scientists working in fish processing can also find benefit out of this book. The extensive bibliography will allow the readers for availing further information on the specific area of interest.

We are indebted to the contributors of this book for sharing their expertise in the specific areas of the subject.

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