



Book Review

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Food is needed for living creatures. Most care is given to the food consumed by human beings. Therefore considerable research is carried out to improve the safety and quality of food. This book collects together recent research in the food area and is particularly useful for people interested in new developments and techniques applied in the food industry.

This volume is comprised of five sections. The first section covers inositol phosphates in foods. It begins with the analytical methods and metabolic pathways for the synthesis and degradation of inositol phosphates, followed by their distribution in various sources, such as seeds, vegetables, fruits and animals. Their importance is then discussed, their bioavailability, adsorption of minerals such as calcium and iron, and their assistance in the prevention of various health disorders. Finally, areas of potential further research are discussed.

The second section introduces pyrrolizidine alkaloids in foods. A general introduction is initially provided, such as plant and chemical sources. The discussion then focuses on their application in foods and herbal medicines, their toxicity and metabolism, specifically their mechanism of toxic action. Control of pyrrolizidine alkaloids levels and future prospects is also provided.

The third and fourth sections discuss new techniques, ultrasonic sensors and ozone application in the food industry. With respect to ultrasonic sensors, interest in how the technique could be developed is presented, although there is currently not a comprehensive sensor

that meets the requirements of the food industry. The background of ultrasonic sensors is presented along with a comparison of different methods and applications. Through a critical understanding of both the strength and weaknesses of ultrasonic sensors, the technique is expected to grow. Ozone has strong microbicidal action against bacteria, and may therefore be used to enhance the shelf-life and safety of food products. An overview of ozone chemistry and properties and the basic requirements for ozone operation is presented, along with applications, particularly combination with other chemicals such as hydrogen peroxide, or ultraviolet radiation, to improve antimicrobial efficacy.

The final section discusses the high molecular weight (HMW) subunits of wheat glutenin and their role in determining wheat processing properties. HMW subunits play a crucial role in determining the viscoelastic properties of hydrated gluten and the mixing properties of dough. This section not only provides a biochemical and genetic explanation for the role of the HMW subunits in determining breadmaking quality, but also discusses the sophisticated biophysical models used to explain the fundamental properties of HMW subunits and the molecular basis for their role in viscoelasticity and mixing.

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