



Editorial

**Processing Methods and Bio-applications in
Functional Food Production**

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In nowadays the manufacturing or processing of foods is of high importance, in direct link with food industry development. Food industry can help to improve the economic and nutritional status by providing nutritious and/or functional foods supply. The main issue currently being debated views on food control, which includes several factors such as: safety, nutrition, quality and value. The nutritional security (quality) and food security (quantity) both depend on a large number functional properties such as its physicochemical properties, processing method and parameters that can influence the nutritive composition and additional beneficial effects, thus affecting the consumer confidence and health status¹. The special issue on “Nutraceutical & Functional Food Production” issue is aimed at providing a recent update on the selecting suitable techniques, methods and tools to keep and/or enrich their nutritive values and bioactivity, as well as proposing future directions on food analytical methodologies.

This special issue is a collection of 1 review and 15 research articles on the overall knowledge and applications of food industry and food safety in different consumption pattern, living arrangements and nutritional status. The first 13 papers broadly delineate how the various types of processing methods and bio-applications contribute to the food ingredients and nutritional indices, of which 8 papers identify the physicochemical properties and sensory evaluation of processed foods and the following 5 articles reveal potentially health-promoting and disease preventive effects, and other 1 review and 2 papers emphasize the impact of innovative technologies, instruments, and eating habits on food analysis and food-derived lifetime disease risk.

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Yogurt or yoghurt is a food produced by bacterial fermentation of milk. Mwizerwa *et al.*,² and Niamah³ utilized cassava resistant starch and *Saccharomyces boulardii* had significantly quantity of yoghurt with acceptable sensory, and improved the physicochemical properties and microbial characteristics. Jaiswal *et al.*,⁴ proposed the measurement of physical properties may benefits as developing mechanical tool in design of sorting, grading, conveying, processing and packaging system. Leng *et al.*,⁵, Plaitho *et al.*,⁶ and Manab *et al.*,⁷ suggested the heat treatments including stir-frying process, sterilization and microwave might effect on the qualities of foods and contents of nutrients and/or bioactive components, but relatively enhance the homogeneity and stability of products during storage period. Tinrat *et al.*,⁸ and Al-Manhel⁹ also utilized food processing wastes and microbial system by optimum conditions of extraction and fermentation to generate gelatin and exopoly *saccharide* which aspects as an alternative source in food industry.

Numerous plant-based food products derived from the manufacturing or processing have proved their additional beneficial effects, along with their nutritional properties.

Nugraheni *et al.*,¹⁰ and A. Kanchana *et al.*,¹¹ used resistant starch type 3 (RS3) and *Oryza sativa* (red rice) flakes to make crackers and snacks that can as a functional food to improve diabetes, obesity and metabolism. Timbadiya *et al.*,¹² replaced with peanut butter to reduce saturated fatty acids in cookies not only had a greater appreciable sensory quality, but also reduce heart disease risk through consumption of beneficial mono and poly unsaturated fats. Ajanaku *et al.*,¹³ indicated the maize-*Ogi* with abundant protein sources would as an alternative approach for combating the threats of protein malnutrition in neonates. Further, Biswas *et al.*,¹⁴ evidenced the hypoglycemic and hypolipidemic efficiency of valuable components from watermelon (*Citrullus vulgaris*) seed kernel on male albino rats.

Questionnaires from Khan *et al.*,¹⁵ and Gupta *et al.*,¹⁶ showed the right concepts and dietary practices would have a positive impact on health status. In the subsequent review, Bunney *et al.*,¹⁷ proposed the biosensor research are now have become powerful instruments in food analysis and safety due to the health risks like bacteria, pesticides and other toxins on food processing and producing.

Firstly the editor kindly thanks all the authors for their outstanding contributions of their manuscripts in this special issue. We also hope this issue will excite nutrition and food science professionals and the food industry with further researches in the field of nutraceutical & functional food production and accurately with each other and by working together to provide a safe, enjoyable, affordable, and sustainable food supplies in the future.

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