

Editorial

Special Issue on “Feature Review Papers in Section Food Processes”

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The successive growth of the population, degradation of the natural environment, and development of civilization diseases force a continuous increase in the production of high-quality food. The growing prices of energy and food necessitate the search for processing methods that will improve the efficiency of energy consumption. Thus, the development of improved or new methods of food processing is an urgent need. Moreover, the food industry generates a large number of low-cost byproducts that can be transferred, among other things, to functional food components and, therefore, provide economic and environmental benefits. This Special Issue entitled “Feature Review Papers in Section Food Processes” is focused on these aspects. The Special Issue is available online at: https://www.mdpi.com/journal/processes/special_issues/Review_Papers_Food (accessed on 20 August 2022).

1. Food Preservation

One of the crucial aspects of food processing is to select the proper method of food pretreatment and preservation. Two papers focus on this topic in this collection. The first paper [1] addresses the importance of food pretreatment before freeze-drying and shows the different techniques to reduce the drying time and obtain high-quality products. The specific methods of food pretreatment addressed in the paper include size reduction, blanching, pulsed electric field, high hydrostatic pressure, osmotic dehydration, and the use of ultrasound. The authors also extensively discuss the effect of these methods on the physicochemical properties of dried food. The second paper [2] describes the innovative and non-thermal methods of food preservation such as pulsed electric fields and ultrasound processing. The impact of these methods and their combinations on the proteins and enzymes of various food products and various nutritional components are described.

2. New Functional Products

Designing new functional products is a current trend in food processing. Three papers in this Special Issue concern this topic. The first [3] shows the possibilities of using rye flour and rye bran as an ingredient in different products. Moreover, the modification of the chemical composition of rye by using different milling techniques is described, and the most important biologically active compounds in rye grain are characterized. Particular emphasis is put on the rye bran as a byproduct with both food and non-food applications. Finally, the method of the production of many biologically active substances from rye bran and the ways of increasing the phytochemical content in rye products are also discussed. The second paper [4] shows the possibility of using sea buckthorn fruits and their components as functional ingredients in novel food products. Specifically, the impact of lactic fermentation on polyphenols is investigated, the organic acid profile of sea-buckthorn fruit juice is characterized, and the novel probiotic products obtained from the components of these fruits are discussed. The last paper from this series concerns the current trends in functional pasta production [5]. Changes in the chemical composition, cooking quality, consumer acceptability, and the antioxidant capacity of both common and durum wheat pasta enriched with different plant and animal raw materials are presented



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and discussed. Particularly highlighted are the additives that have both positive effects on pasta nutritional value and antioxidant potential, without a negative influence on sensory acceptance [5].

3. Food Quality

The next four papers included in this Special Issue are focused on food quality problems. In the paper by Żurek et al. [6], the quality of meat obtained from conventional and ritual slaughter is discussed. The authors also address the ethical aspects of these methods in detail. The second paper is focused on the quality and methods of improvement in horse meat. Especially methods of meat improvement such as using enzymes, calcium salt, and selected substances in marinating processes are highlighted as successful methods of increasing the meat's sensory acceptance. Furthermore, the use of low and high temperatures for meat treatment and changes in meat quality during storage are presented in detail [7]. The third paper from this series is focused on mackerel meat and the effect of frying on the nutritional value and sensory properties of different products from this fish [8]. Notably, the effect of frying on fatty acid and amino acid profiles is discussed. The last paper from this section provides an overview of recent studies on the possibility of using spectroscopy techniques in coffee analysis. Methods such as near- and mid-infrared, Raman, and fluorescence spectroscopy are discussed, and their potential for use in the evaluation of coffee quality characteristics is shown [9].

4. Characterization and Extraction of Phenolic Compounds

Phenolic compounds are secondary plant metabolites that act as defense metabolites against biotic and abiotic stress and have health-promoting properties in many chronic disorders. Two papers in this Special Issue concern this topic. The first contribution describes the extraction techniques of bioactive compounds from Lamiaceae plants such as *Salvia*, *Ocimum*, *Thymus*, and *Origanum*. In addition, the bioavailability of flavones in Lamiaceae plants is investigated [10]. The second paper characterizes the mechanism underlying the photosensitivity of catechin [11].

All the studies presented in this collection directly or indirectly involve a crucial aspect of food processing. I thank all the contributors for their support of this Special Issue, as well as the Editorial Staff of *Processes* for their efforts.

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