

Special Issue on Biochemical Composition of Food

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Food biochemistry concepts and principles have recently become essential in all main areas of food science, including food engineering, processing, technology, and safety. Research on the biochemical composition of food aims to determine the compounds in plant- and animal-based foods that promote health. By utilizing the unique chemical features of these compounds, it is possible to improve the quality of food from a nutritional, technological, medicinal, or sensory perspective. These research goals are achieved by bridging gaps between food components and their final products. This is accomplished by controlling reactions to achieve desired results. To ensure that the data obtained have the greatest possible informative value, research in this field should focus on current methods for assessing dietary components, modeling systems for studying their interactions, and data processing tools that are efficient.

This Special Issue represents research from different aspects of the biochemical composition of food, including innovative drying technologies for the dehydration of foods, important aspects of fruit storage under controlled atmosphere, the use of ozone in food safety, the biochemical composition and physical properties of daily products that depend on seasonal cultivation factors for plant-based materials, as well as breeds and farming technologies for products of animal origin, and in vivo research on the influence of supplements. There are seven research articles in this Special Issue (six publications, including a brief report, and one review) from different fields of food biochemistry, including the biochemical composition of food, biologically active compounds, food processing technologies, and food safety. Sharma and Kaushik [1] report in detail on their eggplant research from a biochemical perspective and provide insightful directions for further research. Butkeviciute et al. [2] comprehensively analyze and present the alterations observed in the biochemical composition and physical qualities of different apple cultivars maintained in various controlled atmospheres. This study demonstrates that apples can be stored for extended periods with minimal changes to their nutritional composition. Jukniene et al. [3] propose the possibility for the meat industry to use meat by-products to create functional compounds using the innovative lyophilization process. Lyophilization is a preservation technique that maintains the beneficial components and nutritional value of meat by-products. In their study, Kocetkovs et al. [4] describe the effect of eggshell thickness on the quality of stored eggs produced by three distinct breeds of laying hens in cage and cage-free housing systems. They found that the quality of eggs deteriorated over time, but this was primarily influenced by the genetic background of the hens and the housing conditions they were kept in rather than the structure of the eggshell. The study by Queirós et al. [5] focused on the nutritional value of green macroalgae, *Ulva rigida*. Their research examined the mineral composition, fatty acid profile, and protein, fat, ash, and dietary fiber content of the macroalgae in an open land-based integrated multi-trophic aquaculture system over four seasons. In another study, Paulikiene et al. [6] report that the number of microorganisms significantly decreased in the ozonated samples compared to the controls, with no significant effect on the biochemical and physicochemical properties of sap. Lastly, Liubertas et al. [7] conduct an investigation that revealed no harmful long-term



Citation: Viskelis, P.; Viskelis, J.; Urbonaviciene, D. Special Issue on Biochemical Composition of Food. *Appl. Sci.* **2023**, *13*, 12312. <https://doi.org/10.3390/app132212312>

Received: 5 October 2023

Accepted: 9 November 2023

Published: 14 November 2023



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supplementing effects of KNO₃ as a supplement material about mouse survival. The study only resulted in very minor structural alterations in the animals' organs.

Late submissions are no longer delaying this Special Issue. Further research into the biochemical composition of food remains crucial to address challenges such as sustainable food technologies and consumer health, well-being, and safety.

Funding: This research received no external funding.

Acknowledgments: Thanks to the authors and reviewers for dedicating the necessary time and effort to this Special Issue, 'Biochemical Composition of Food'. We would also like to extend our gratitude to all the staff and people related to this Special Issue.

Conflicts of Interest: The authors declare no conflict of interest.

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