

Special Issue

Exploring Natural Antimicrobials and Antioxidants: Mechanisms and Applications in Enhancing Food Quality and Safety

Message from the Guest Editors

This Special Issue focuses on recent advances in the discovery, characterization, and application of natural antimicrobials and antioxidants as sustainable solutions for improving food quality, safety, and shelf life. This Issue highlights the mechanistic insights into how natural compounds inhibit microbial growth and oxidative degradation, emphasizing molecular interactions, synergistic effects, and modes of action at cellular and biochemical levels. Contributions explore diverse application strategies, including incorporation into edible coatings and films, impregnation techniques for the enrichment of food matrices, and nanoencapsulation for enhanced stability and controlled release. Studies also address the integration of natural antimicrobials and antioxidants into packaging systems and food formulations, as well as the influence of processing technologies—such as drying, fermentation, and thermal treatments—on their stability, bioactivity, and functional performance. Furthermore, the Issue discusses technological, regulatory, and sensory challenges associated with implementing natural preservatives in real-world food systems.

Guest Editors

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Prof. Dr. Carlos Enrique Ochoa Velasco
Prof. Dr. Genaro Gustavo Amador Espejo

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About the Journal

Message from the Editor-in-Chief

Foods (ISSN 2304-8158) is an open access and peer reviewed scientific journal that publishes original articles, critical reviews, case reports, and short communications on food science. Articles are released monthly online, with unlimited free access. Currently, *Foods* has been indexed by the Science Citation Index Expanded (SCIE - Web of Science), PubMed, and Scopus. Our aim is to encourage scientists, researchers, and other food professionals to publish their experimental and theoretical results as much detail as possible. We therefore invite you to be one of our authors, and in doing so share your important research findings with the global food science community.

Editor-in-Chief

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