

Special Issue

Natural Antioxidants from Plant-Based By-Products: Mechanisms and Applications in Food Systems

Message from the Guest Editor

The growing demand for sustainable and health-oriented food solutions has driven increased interest in natural antioxidants derived from agro-industrial by-products. These bioactive compounds—particularly polyphenols—present in grape pomace, almond skins, olive leaves, and other plant-based residues, offer promising antioxidant, antimicrobial, and functional properties. Their incorporation into food systems, especially meat and processed products, can improve shelf life, safety, nutritional value, and sensory quality while contributing to waste reduction and circular economy practices. This Special Issue aims to highlight recent advances in the extraction, characterization, mechanisms of action, and practical applications of natural antioxidants from plant-based by-products. We welcome original research articles, reviews, and case studies related to the following: Innovative extraction and valorization techniques; Antioxidant mechanisms at molecular and cellular levels; Application in food preservation and formulation; Impact on product quality, safety, and shelf life.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

It has been recognized in medical sciences that in order to prevent adverse effects of “oxidative stress” a balance exists between prooxidants and antioxidants in living systems. Imbalances are found in a variety of diseases and chronic health situations. Our journal *Antioxidants* serves as an authoritative source of information on current topics of research in the area of oxidative stress and antioxidant defense systems. The future is bright for antioxidant research and since 2012, *Antioxidants* has become a key forum for researchers to bring their findings to the forefront.

Editor-in-Chief

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