Today's consumers are increasingly aware of the diet-health relationship and functional foods that provide positive health benefits beyond the traditional nutritional properties are in high demand. Now that a close association between diets rich in fruit and vegetables and a reduced incidence of certain chronic diseases is well known, phytochemicals with bioactive potentials are of increasing interest for functional food formulations. These ingredients can promote well-being by modulating metabolic processes or pathways in the body, although their mechanism of action is not always completely understood.

Research is still required in this field to identify new phytochemical sources and to substantiate the potential health benefits of these food ingredients to create a solid scientific knowledge base for their proper application in the promotion of health. Alongside the functional properties of phytochemical sources, the organoleptic characteristics are also crucial in order to obtain quality products.

Therefore, the objective of this special issue is to update existing data on new food ingredient sources, purification techniques, potential health benefits, and industrial applications of natural extracts with enhanced bioactivity for functional food development and food quality improvement. Original research papers as well as review articles in any of the proposed topics are encouraged.

Potential topics include but are not limited to the following:

- Modification of phytochemicals by agricultural practices and processing methods and the resulting effects of these modifications on food quality
- Analytical methods for characterization and chemical purification of phytochemicals
- Functional properties of phytochemicals as used in food products and the resulting health effects
- Molecular targets and biochemical pathways of phytochemical digestion
- Incorporation into foods, organoleptic characteristics, and the resulting impacts on food quality
- Virtual screening and bioactivity prediction of phytochemicals used in food
- Food industrial applications and quality controls
- Safety and toxicology of phytochemicals in food sources

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Papers are published upon acceptance, regardless of the Special Issue publication date.