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Special Issue Reprint

Phytochemicals in Plants

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New trends in the use of natural compounds in many fields, such as food and pharmaceuticals, have increasingly drawn researchers' attention towards phytochemicals. Phytochemicals are biologically active compounds from plants. They are primary and secondary metabolites that provide a wide range of valuable bioactivities, including anti-inflammatory, antimicrobial, antiviral, antiparasitic and antifungal effects, as well as anticancerigene and chemotherapeutic properties. Also, some phytochemicals are toxic or have detrimental effects on humans. The Special Issue "Phytochemicals in Plants: Recent Developments on the Occurrence, Composition, Stability, Health, Food and Pharmaceutical Applications—2nd Edition" focused on the most recent findings regarding the identification and quantification of new and/or highly bioactive phytochemicals in various plants, especially land plants (e.g., flowering plants, fruits and vegetables) and their separation, purification, and structural characterization. Recent modern developments in the methods of separation and analysis were highlighted. Moreover, the degradation and stability of such compounds, including innovative stabilization techniques, were revealed. The mechanisms involved in phytochemical biosynthesis and key biological activities (e.g., antioxidant, anti-inflammatory, antimicrobial, antiviral, or anticancer effects) were also presented. Moreover, some studies explored the application of the plant phytochemicals in the food, pharmaceutical, and cosmetic fields.

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