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Nota di contenuto	Part I: Antioxidant Resources -- Natural Food Antioxidants -- Polyphenols in Herbal Extracts -- Grape Polyphenolics -- Betalains as Antioxidants -- Selected Species of Medicinal/Arboreal Mushrooms as a Source of Substances with Antioxidant Properties -- Antioxidant and Pro-oxidant Activities of Carotenoids -- Selenium: Prospects of Functional Food Production with High Antioxidant Activity -- Antioxidant Activity and Fresh Goat Cheese -- Extraction of Natural Plant Polysaccharides and Their In Vitro Antioxidant Activities -- Poisonous Mushroom (Nonedible) as an Antioxidant Source -- Antioxidant and Photoprotective Properties of Neotropical Bamboo Species -- Cultures of Medicinal Plants In Vitro as a Potential Rich Source of Antioxidants -- Part II: Utilization of Antioxidants -- Applications of Antioxidants: A Review -- Plant Antioxidants from Agricultural Waste: Synergistic Potential with Other Biological Properties and Possible Applications -- Natural Antioxidants Used in Meat Products -- Antioxidants in Health and Disease with Their Capability to Defend Pathogens that Attack Apple Species of Kashmir -- Part III. Antioxidants and Health -- The Role of Natural Antioxidants in Reducing Oxidative Stress in Cancer -- The Cytoprotective Activity of Nrf2 is Regulated by Phytochemicals (Sulfuraphane, Curcumin, and Silymarin) -- Current Evidence for Disease Prevention and Treatment by

Protocatechuic Acid (PCA) and Its Precursor Protocatechuic Aldehyde (PCAL) in Animals and Humans -- Reduction of Oxidative Stress in Human Body via Inhibitory Effect of Plant Phenolics on Circulating Neutrophils; Results of In Vitro and In Vivo Studies -- Anti-Inflammatory Effects of Different Dietary Antioxidants -- The Beneficial Role of Natural Antioxidants in Alleviating Neuroinflammatory Disorders Including Neurodegeneration -- Beneficial and Detrimental Effects of Antioxidants in Allergic Contact Dermatitis -- Vitamin E – The Wonderful 'One-for-All' Gift of Health -- Part IV: Screening, Preservation and Determination Methods for Antioxidants -- Extraction and Assessment Methods as Well as Resources of Natural Antioxidants in Foods and Herbs -- Antioxidant Activity and Capacity Measurement -- Recovery and Purification of Antioxidant Compounds from Plant Origin Agro-Industrial By-products -- Microencapsulation Methods for Food Antioxidants -- Plant Antioxidants and Antimicrobials in Edible and Non-edible Active Packaging Films.

Sommario/riassunto

This book provides a comprehensive reference guide to plant-derived antioxidants, their beneficial effects, mechanisms of action, and role in disease prevention and improving general health (anti-ageing effect). The content is divided into three main parts, the first of which covers various antioxidants (such as polyphenols, carotenoids, tocopherols, tocotrienols, glutathione, ascorbic acid), their origins, plant biochemistry and industrial utilization. In turn, the book's second, main part focuses on antioxidants' beneficial health effects, explains biochemical fundamentals such as the free radical theory and oxidative stress, and discusses antioxidants' role in e.g. cancer, cardiovascular diseases, inflammation, degenerative diseases and ageing. The third part reviews general laboratory methods for antioxidant screening, preservation and determination. Written by an international team of experts, this highly interdisciplinary book will benefit a broad range of health professionals and researchers working in biochemistry, biotechnology, nutrition, plant science and food chemistry. It offers an indispensable, up-to-date guide for anyone interested in antioxidants and the role of a plant-based diet in disease prevention and control.