

covered include baking strength, milling and baking quality, rye and mixed rye-wheat bread, and animal feeds.

This is an essential reference volume for food professionals who want to gain an understanding of this versatile grain as a basis for improving rye production and the quality and development of finished products made from rye. It should also be very useful to scientists and students interested in aspects of rye chemistry and technology.

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Handbook of hydrocolloids

G.O. Phillips, P.A. Williams (Eds.); Woodhead Publishing Limited, Cambridge, UK, 2000, xxii + 450 pp, ISBN 1-85573-501-6 (£150.00)

Hydrocolloids are important tools in the design of novel nutritionally valuable foods, since they can modify texture, improve mouthfeel, act as fat replacers, encapsulate flavours, emulsify beverages, enhance viscosity and elasticity, modify pouring properties, improve product stability and extend shelf life. A concise, yet comprehensive, source of information on their properties and applications is therefore very useful for food manufacturers. Hydrocolloids behave differently as a function of pH, electrolyte concentration, thermal treatment, etc. Hydrocolloid selection is therefore of paramount importance, and this handbook aims to be an invaluable tool with respect to selection of the correct hydrocolloid for a particular product requirement, and covers all of the major hydrocolloids utilised in the food industry.

The handbook is comprised of twenty-six chapters, and begins with an introductory chapter written by the editors. This chapter introduces information on regulatory aspects, thickening characteristics, viscoelasticity and gelation, synergistic combinations, hydrocolloid fibres, and future prospects, and sets the scene for the specific chapters that follow. Subsequent chapters present detailed specific information on agar, starch, gelatin, carrageenan, xanthan, gellan, galactomannans, gum arabic, pectins, milk proteins, cellulose, tragacanth, karaya, xyloglucan, curdlan, cereal β -glucans, soluble soybean polysaccharide, bacterial cellulose, microcrystalline cellulose, chitosan, alginates, inulin, and konjac mannan. Other topics covered include gums

used as coatings and adhesives, CRC emulsifying biopolymer, and Philippine Natural Grade (PNG) and semi-refined carrageenan.

Each chapter has been written by specialists from around the world, in order to provide the most authoritative and current information available, and examines all aspects of the individual hydrocolloid including definitions, chemical structure and derivatives, manufacturing/processing procedures, commercial applications, functions, technical data, regulatory status, sample recipes and formulations, and numerous references.

The 'Handbook of hydrocolloids' is a valuable reference source for manufacturers and users of hydrocolloids, and is highly recommended for researchers and students with interests in all areas of food science and technology.

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Herbs, botanicals and teas

G. Mazza, B.D. Oomah (Eds.); Technomic Publishing Co., Lancaster, PA, 2000, xvii + 416 pp, ISBN 1-56676-851-9 (£77.00)

The terms herbs, botanicals, and teas can be defined in several ways depending upon the context in which they are used. Where they come from inevitably involves carbohydrate in some macromolecular form. The term herb generally refers to plants with leaves or stems that are used for medicine, seasoning, food or perfume. A botanical is traditionally a drug made from roots, leaves, flowers or other parts of plants. It can also imply herbal preparation, herbal tea, herbal mixture or medicinal herb. The term tea refers to black and green teas made from the leaves of *Theae nigrae folium*. Disillusionment with modern medicine, pharmaceuticals, and the healthcare system as a whole, has increased over recent years, resulting in a higher demand for functional foods and nutraceuticals. 'Herbs, Botanicals & Teas' is part of the 'Functional Foods & Nutraceuticals Series', which offers comprehensive treatment of the emerging science and technology in this expanding field, focusing upon food and food components shown to play a role in preventing or delaying the onset of diseases.

The latest scientific and technical information on the chemical, pharmacological, epidemiological and clinical aspects of major herbal and tea products are presented.

The volume is composed of thirteen chapters, which collectively provide in-depth coverage of garlic, ginseng, Echinacea, ginger, fenugreek, St. John's Wort, Ginkgo Biloba, golden-seal, saw palmetto, valerian, evening primrose oil, bilberries, blueberries, black and green teas, and liquorice. Information on international regulations, quality assurance and quality control, for the herbal and tea industries is also provided.

Each chapter begins with an introduction, which provides an historical perspective and information on distribution and uses (food and non-food). The chemical structures and reactions of biologically active components, their biosynthesis and analysis, and the effects of environment, production, processing and storage, are then presented. The biological and pharmacological properties of the bioactive components, and their mechanism of action in vivo, are discussed, along with the results of any in vitro studies, animal experiments, epidemiological studies and human studies, to assess the effects on cancers, cardiovascular diseases, cataracts and other diseases. Physiological actions addressed include endocrine activity, neurotransmitter activity, neuro-

physiological responses, antioxidant activity and immune system effects. Information on optimal consumption levels, toxicological risks and side effects, over-consumption, and possible drug interaction, are also discussed.

This volume provides an abundance of information (citing over 2000 references), collected for the first time in a single comprehensive source, and is therefore highly recommended to all researchers with interests in functional foods and nutraceuticals.

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