research has been conducted on the physiological effects of diets rich in whole-grains. This article covers the definition of whole grains, epidemiological evidence, and possible mechanisms for cancer protection based upon the presence of fermentable carbohydrates, decreased transit time and increased stool weight, and antioxidants. This leads nicely into the next article, which focuses upon whole-grain products and antioxidants. Studies have indicated that the consumption of grains, fruits and vegetables is related to lower incidence of aging diseases, as they contain a variety of chemoprotective substances such as antioxidants. Specific areas covered in this article include the determination of antioxidant activity, and the antioxidant activity of fruits, vegetables, and grains.

A number of whole-grain foods and grain fibre sources are beneficial in reduction of insulin resistance and improvement of glucose tolerance. Dietary recommendations of health organisations suggest consumption of three servings per day of whole-grain foods. The next article discusses research using various grains and grain products (based on barley, corn, oats, rice, rye and wheat), effective in improving insulin resistance or lowering glycaemic index. The penultimate article discusses antioxidants in wheat-based breakfast cereals, specifically covering the identity of dietary antioxidants in wheat and the impact of their digestion. It is encouraging that the final article discusses the recommendations for the dietary intake of whole-grains, comparing recommended consumption levels (which are not based upon research data), with actual levels of consumption (in the US). This article highlights topics such as understanding the benefits, identifying whole-grain products, and their convenience and availability.

This informative publication provides a concise account of the scientific evidence for the health benefits of whole-grains and their derived products, and is therefore recommended to researchers with interests in such areas of nutrition and food science.

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Food Chemical Safety, Volume 1: Contaminants
D. Schomburg, I.D.H. Watson (Eds.); Woodhead Publishing Ltd, Cambridge, UK, 2001, xiii + 322 pages, ISBN 1-85573-462-1, £135.00

In recent years, the scientific knowledge of contaminants has grown considerably. The food industry is well aware of food becoming chemically contaminated from various sources, such as pesticides, veterinary drug residues, food packaging and others and is thus a major concern. This volume put together by an international team of contributors reviews the many aspects of food contamination from its source to methods of control.

The opening chapter 1 of *Food Chemical Safety* introduces the reader into this field. Part 1 containing chapters 2–5 is based on analytical methods for detecting and analyzing contaminants. The chapters contain information on the risk analysis on establishing priorities and the quality control and selection of analytical methods. Other chapters discuss the molecular imprint-based sensors and bioassays in contaminant analysis. Part 2 containing chapters 6–11 focuses on particular contaminants. These include veterinary drug residues, inorganic contaminants, such as metals and nitrates, environmental organics, such as aromatic hydrocarbons, chemical migration from food packaging, pesticides, and mycotoxins. Part 3 addresses the regulation aspects of contamination internationally, in the EU and US in chapters 12–14.

This volume is well written and contains numerous references. It is recommended for a broad range of professional scientists wishing to consolidate and update their knowledge in areas of food safety.

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Instrumentation and Sensors for the Food Industry
E. Kress-Rogers, J.B. Brimelow (Eds.); Woodhead Publishing Ltd, Cambridge, UK, 2001, xxx + 836 pages, ISBN 1-85573-560-1, £175.00

The food processing industry has become more advanced with developments in technology and efficient large scale processing plants. Todays customers expect quality in the

foreground amongst other requirements, such as nutrition, variety, adequate shelf life and reasonable cost of products. To meet these demands, the development and knowledgeable application of sensors and instruments is a key element. It follows the first edition, which is established as a standard reference on instrumentation for measuring food quality. This book covers a discussion on a wide range of established and emerging instrument types with the underlying principles described too for application in industry.

The book sets the scene with two introductory chapters followed by three parts. Part 1 is focused on the in-line measurement for the control of food processing operations. It includes colour measurement; the measurement of food composition using varied techniques, such as near infrared, rheology and FTIR; and the measurement of pressure, temperature, level, flow and viscosity in food process control. Part 2 addresses instrumental techniques in the quality control laboratory. It covers rhelogical measurements and texture measurements; and water and microbial activity. Part 3 devotes five chapters to the use of chemosensors, biosensors, immunosensors, electronic noses and tongues and DNA probes. This section also illustrates the complex and expensive process of developing a novel instrument.

In conclusion, each subject is presented in a comprehensible and engaging manner with references provided at the end of each chapter. Also included are the appendices of glossary and tables. The book is intended for engineers and managers involved with process optimisation and development of new instruments within the food sector. Additionally, students of instrument engineering, food science, physics or biochemistry would also find this book helpful. Furthermore, this book is of interest to scientists in the field of process engineering, industrial instrumentation and process control.

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Genetic Engineering News—2001 Directory of Biotechnology Companies

J. Sterling (Ed.); Mary Ann Liebert, Inc., Larchmont, USA, 2001, xliv + 836 pages, ISBN 0-913113-89-1, US$675-00

The all-encompassing field of biotechnology has experienced dramatic growth over the last decade. This directory has been compiled by the editors of *Genetic Engineering News*, and provides current information and statistics on over 5000 private and public companies in over 50 countries, in one volume. It is divided into 15 smaller directories and six key indexes. The introduction to the volume also includes a comprehensive listing of new medicines in development, and a list of new approved biotechnology products.

The individual directories cover biotechnology companies, bioprocessing and bioprocess engineering companies, peptide and peptide instrumentation companies, law firms specialising in biotechnology, venture capital companies, recruiters specialising in biotechnology, biotechnology consultants, cell and tissue culture companies, state biotechnology centres and university bioprocessing facilities, attaches at foreign embassies, contract research organisations, technology transfer centres, advertising agencies, biotechnology software companies, and drug discovery companies. The new section on drug discovery covers companies doing genomic research and development. The indexes are organised by technology, market, company, state (for the USA), and country, and there is also an index of advertisers.

The entry in the directory for each company provides detailed contact information, which includes addresses, phone and fax numbers, e-mail addresses, and the names of senior company officials and contacts in research, marketing, regulatory affairs, legal affairs, licensing, purchasing, etc. Critical information on business focus, primary business, subsidiaries, joint ventures, licensing agreements, technologies, markets, major products, patents, and projects under development are also provided.

This volume manages to bring together a vast amount of company information covering the world of biotechnology and can therefore be utilised for a wide variety of tasks, from keeping up to date on biotech trends, patents, and product developments, to finding funding for new ventures. Access to such information in a single concise volume should be of value to many researchers in academia and industry with interests in the diverse aspects of biotechnology.

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