

and environmental effects, and then details existing technologies available to solve these problems and the possible re-utilisation of OMWW. The anti-microbial and phytotoxic effects of OMWW have been related to its phenolic and organic acids content. In soils, OMWW results in an unbalance of the microorganism ecosystem. Treatment processes existing include physical treatments, such as dilution, sedimentation, filtration, flotation and centrifugation. Sedimentation is the most used technology. It results in the fractioning of two liquid phases; a low chemical oxygen demand (COD) supernatant and a high COD settled sludge that can be removed by precipitation/flocculation processes. The third part of the book presents the potential uses of OMWW. As an example polyphenols can be used as anti-oxidants in cosmetics.

Olive-Mill Waste Management provides an excellent introduction and detailed description of olive oil by-products management. It is well illustrated with graphs and pictures of Greek producer's systems. This book is recommended for academic and industrial scientists/researchers will interests in olive oil production and/or recycling technologies.

John F. Kennedy*
François Meullenet
Chembiotech Laboratories,
Institute of Research and Development,
University of Birmingham Research Park,
Birmingham B15 22, UK

Available online 16 December 2004

* Corresponding author

0144-8617/\$ - see front matter © 2004 Elsevier B.V. All rights reserved.
doi:10.1016/j.carbpol.2004.11.009

C.Remacle , B. Reusens (Eds.), Functional Foods, Ageing and Degenerative Disease, Woodhead Publishing Ltd, Cambridge, UK, 2004 (xix + 771 pp., £160.00, ISBN 1-85573-725-6.

Functional foods are defined as food products that play a role with respect to the consumer's well-being. This involves mainly health concerns, especially during childhood and in old age, where degenerative diseases are a growing problem that has been clearly related to the diet in the developed world. Indeed, although it is well known that the diet plays an important role in development of cardiovascular diseases of ageing people, it also has a direct influence on the susceptibility to degenerative diseases during early life.

Functional foods, ageing and degenerative disease is a collection of reviews presenting the current issues, functions and role of functional foods for the development of degenerative diseases. The first three chapters present respectively the regulatory context of food legislation in the EU, diet and prevention of degenerative disease during pregnancy, and functional foods for age-related diseases. For example, studies have demonstrated that the diet of pregnant women exerts prenatal and early postnatal influences on the developing baby by acting on intra-uterine development and the quality of breast-milk for adequate growth and gut flora development. The following six chapters focus on the role of functional foods for bone and oral health and include examples such as the effects of functional foods with respect to osteoporosis and dental health.

The next three chapters focus on the role of functional foods for the control of obesity, and the subsequent five chapters on functional foods with gut health and immune functions. The fourth and final part includes ten reviews on the incidence of functional foods on cancer prevention. For example, plant phenolic compounds are thought to inhibit overexpression of cyclooxygenase- (Cox-2) and hence cancer. Chemoprevention through the consumption of phytochemicals is becoming readily acceptable although little is known about the mechanisms. In summary, this collection of informative reviews will be of great interest both to new comers and experimented scientists with research interests in all areas of functional food development and function.

John F. Kennedy*
François Meullenet
Chembiotech Laboratories,
Institute of Research and Development,
University of Birmingham Research Park,
Birmingham B15 23, UK

Available online 16 December 2004

* Corresponding author

0144-8617/\$ - see front matter © 2004 Elsevier B.V. All rights reserved.
doi:10.1016/j.carbpol.2004.11.011

E. Heftmann (Ed.), Chromatography 6th Edition—Fundamentals and Applications of Chromatography and Related Differential Migration Methods. Part A: Fundamentals and Techniques, Elsevier Sciences, Amsterdam, The Netherlands, 2004 (xi + 518pp., \$245, ISBN 0-444-51107-5).

The better understanding of the chemical and biological properties of macromolecules involves a prerequisite

purification step since the fundamental properties of mixtures are of less interest. In the field of purification technologies, chromatography is a well-known technology and has become one of the most used detection and quantification methods worldwide. Chromatographic techniques are numerous, ranging from simple thin layer chromatography (TLC), to gas chromatography (GC) and high performance liquid chromatography (HPLC). Current uses are now allowing quantification of molecules such as proteins, lipoproteins, nucleic acids and polysaccharides (within the range of picomolar concentrations in some cases). Applications are so numerous and recent technologies so complex, that up to date reviews expert scientists are required.

Chromatography—6th Edition is Volume 69A in the *Journal of Chromatography Library*. The first part of the volume is divided into 12 reviewed chapters focusing on the fundamentals and techniques in chromatography. The first chapter deals with the theory of chromatography, whereas subsequent chapters present specific technologies including column liquid, affinity, ion, size-exclusion, electrokinetic, and gas chromatographies, and capillary zone electrophoresis. Ion exchange chromatography began in the mid-1970s and its evolution since then has led to sensitive parts-per millions determinations of multiple ions within minutes. A similar evolution has occurred for

size-exclusion chromatography since the mid-1950s. It is now used coupled with mass-spectrometry and NMR, allowing identifications of polymers, proteins, carbohydrates, and nucleic acids. The last three chapters focus on recent evolutions including coupled techniques, microfabricated analytical devices and a brief review of instrumentation.

This latest edition is a valuable reference for students and scientists dealing with any chromatographic technologies.

John F. Kennedy*
François Meullenet
ChembioTech Laboratories,
Institute of Research and Development,
University of Birmingham Research Park,
Birmingham B15 24, UK

Available online 16 December 2004

* Corresponding author

0144-8617/\$ - see front matter © 2004 Elsevier B.V. All rights reserved.

doi:10.1016/j.carbpol.2004.11.013