

processes within plants and the terminal residues of agrochemicals in food crops are invaluable.

'Metabolism of Agrochemicals in Plants' is the first text to give systematic coverage of this topic. This volume is part of the Wiley Series in Agrochemicals and Plant Protection, and encompasses current scientific, regulatory knowledge and perspectives on all aspects of the use of chemicals and biotechnology in agriculture. It also contains contributions from experts in the agrochemical industry worldwide.

The book starts with a brief regulatory introduction and then experimental approaches for plant metabolism studies are critically reviewed. Following this are three chapters on key phases (primary and secondary) of metabolism and bound or non-extracted residues arising from the use of agrochemicals on plants. Subsequent chapters encompass the comparative metabolism of agrochemicals in plants and mammals and herbicide metabolism as a basis for selectivity. Finally, herbicide safeners and synergists are also covered especially as compounds in agrochemicals may interact resulting in increases or decreases in biological activities.

This book is unique and thoroughly up to date, bringing together the current status of the subject. Each chapter is self-contained with an introduction, main contents section, discussion and conclusion. Extensive references are also given. 'Metabolism of Agrochemicals in Plants' is an essential text for chemists and biochemists in the agrochemical and pharmaceutical industries and in academia, as well as for analytical chemists, regulatory chemists and environmental scientists.

Mercedes G. Garaita

John F. Kennedy\*

*Chembiotech Laboratories,*

*University of Birmingham Research Park,*

*Vincent Drive,*

*Birmingham B15 2SQ, UK*

*E-mail address: jfkennedy@chemistry.bham.ac.uk*

\* Corresponding author. Tel.: +44-121-414-7029; fax: +44-121-414-7030.

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### **Food Analysis by HPLC 2nd ed**

Editor: Leo M. L. Nollet Marcel Dekker Inc., 2000, 1049 pp., \$250, ISBN 0-8247-8460-X

The first edition was a comprehensive volume covering all the major topics of food compounds for the analyst or engineer. The second edition gives the same excellent

coverage but has been extensively revised with new chapters being included.

A considerable theoretical introduction to HPLC analysis is included. Common methods of HPLC are discussed, i.e. ion exchange, size exclusion etc., also some less popular topics such as micellar liquid chromatography (MLC). Practical strategies to achieve separation using the selection of stationary phase, eluent, isocratic or gradient elution are discussed along the latest information on sample preparation. Various detectors and their appropriate use are described.

The chapters on food compounds include: proteins, peptides, amino acids and organic bases; lipids, phospholipids and fat soluble vitamins; carbohydrates; organic acids; water soluble vitamins and hop resin components. Compounds used in manufacture include: preservatives and antioxidants; sweeteners; synthetic colourants. Also included are natural and synthetic contaminants and chemicals used in production: carbamate and urea pesticides; pesticide residues, organophosphate and organochlorine; mycotoxins and related compounds; antimicrobial residues. Completely new chapters to this edition cover: alcohols; phenolic compounds; pigments; and growth promoters.

The individual chapters start with an introduction followed by a plethora of well presented information about the compounds i.e. structure, pH, solubility, protective agents, relative sweetness etc. Particularly well referenced tables are included of specific samples, their separation methods and detection. Examples of separation methods are given along with the chromatograms acquired.

This edition is superb, it would be an aid to any individual, novice or professional in the field of food analysis or allied professions.

Lorraine A. Quinton

John F. Kennedy\*

*Birmingham Carbohydrate & Protein Technology Group,*

*Chembiotech Laboratories,*

*University of Birmingham Research Park,*

*Vincent Drive*

*Birmingham B15 2SQ, UK*

*E-mail address: jfkennedy@chemistry.bham.ac.uk*

\* Corresponding author. Tel.: +44-121-414-7029; fax: +44-121-414-7030.

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### **New Trends in Synthetic Medicinal Chemistry**

Fulvio Gualtieri (Ed.) WILEY-VCH Verlag GmbH, Weinheim, 2000, 370 pp., £88.00, ISBN 3-527-29799-5