

Book Reviews

Developments in Food Science. Progress in Flavour Research 1984.
Edited by J. Adda. Elsevier, Amsterdam, 1985. 634 pp. Price: Dfl. 340.00.

The Weurman Flavour Research Symposia are held three-yearly, bringing together a limited number of active researchers from all disciplines related to flavour research. This is the proceedings of the fourth in the series, held in Dourdan, France, in 1984. The book contains 27 papers and 24 posters covering recent developments in four major areas—sensory techniques and applications, data analysis and application, flavour of products with a large section on wine and analytical techniques. The standard is high, as with each of the previous Weurman Symposia. The following foods and materials are covered: cocoa beans, instant coffee, cured meat, herbs, spices, black pepper, capsicum, milk, black tea, grapes, mushrooms, white fish, rice, tropical fruits, brassicas, wild Nordic berries, tobacco and algae. There are several papers on wine, including one on the flavour contribution of wood in alcoholic beverages. Some other areas covered include analysis of food off-flavours, changes in storage of instant coffee and heat treatment of milk. A final article by Land gives a useful overview, outlining where progress has been made and areas where to go next.

Some areas are progressing well. On chemical methods, several extraction techniques have become well established and refined, with supercritical CO₂ an interesting promising area, as of reverse osmosis for concentrating aqueous extracts. Activated charcoal and porous polymer

beads are widely used for trapping volatiles. Gas chromatography (GC) using fused silica bonded phase capillary columns coupled with much improved injection techniques gives far superior separating power and is now popular. The application of hplc is given for chlorophenols and for analysis of oleoresins of black pepper and capsicums. Hplc–ms using microbore columns is mentioned briefly (Whitfield and Shaw) and promises great future potential to flavour chemists and for separating highly polar and thermally labile compounds. Fourier Transform (FT) nmr at ng levels and FT ir have been used to supplement data obtained by mass spectrometry. Two notable new techniques are introduced in sensory research, free choice profiling (Williams and Arnold) and the use of relative to ideal scales (Shepherd *et al.* and Griffiths *et al.*). A heavy emphasis is placed on data handling and analysis. Several papers discuss the basic principles of the application of multivariate statistical techniques. Because of the large and multidisciplinary nature of flavour science many areas receive less attention. The biotechnological formation of flavour materials is an important area which was not covered, probably because of the potential commercial value.

The typesetting and presentation is poor on many papers; however, the book will attract a wide readership and is recommended.

Rosemary O'Reilly

Peptide and Protein Reviews. Vol. 4. Edited by Milton T. W. Hearn. Marcel Dekker Inc., New York 1984. 272 pp. Price: US\$63.00.

Peptide and Protein Reviews. Vol. 4 consists of five chapters dealing with: NAD dependent dehydrogenases; crystalline cytosolic aspartate aminotransferase; heme structure and function; seleno-glutathione peroxidase and neuraminidase. Large sections of this volume discuss the crystallography of the various proteins and the authors are to be congratulated on making these results so accessible to the non-specialist reader. I particularly enjoyed the chapter on heme structure and function. This was an up-to-date review on the crystal structures of heme proteins in general and cytochrome C peroxide in particular. A full review of current ideas of oxygenase/oxidase mechanisms of action was also included. To the authors' credit, they gave a fair hearing to homolytic cleavage of the cytochrome P450 peroxy O—O bond although they clearly are not happy with the idea.