The author is clearly concerned about the commercial secrecy that has surrounded the marked worldwide growth in pesticide manufacture. Growth of production underlines the economic importance of these chemicals, with herbicides leading fungicides and insecticides in both total output and rate of increase. Their poisonous characteristics are of public concern though there is a good toxicity ratio between mammals and pests. As far as the former are concerned, LD 50s for male rats vary between 2 and 7000 mg kg^{-1} for some of the common types of chemical.

The structure and metabolic effects of all the main types of chemical are presented in explanatory detail. Neurotoxicity appears to be a fundamental effect after the primary metabolic step of interaction with enzyme systems. Despite the excellent structural approach, however, the author does not seem to stress the success rate as far as structure/activity relationships are concerned. For example, some 100 000 organophosphorus compounds have been screened for possible insecticidal action and over 100 have been marketed for this purpose. Although the organophosphorus compounds inhibit the acetyl choline esterase system, the organochlorine compounds destabilise neuronal activity in a way that remains obscure. In the USA in 1977 the total tonnage of organophosphorus compounds manufactured was somewhat greater than that of organochlorine compounds.

However, one of the most interesting groups of chemicals is that of the pyrethroids. These substances, obtained from chrysanthemums, contain as principal ingredients, pyrethrins and cinerins, characterised by a high toxicity for insects yet low for mammals. Chemically they all contain the dimethyl cyclopropane ring joined to a cyclopentenolone moiety. Pyrethroids are still too expensive to compete with the more numerous types of pesticide chemical.

Dr Hassall's book is one of those texts that improves with every reading. It is characterised by an academic thoroughness that fits its intended purpose and it is highly recommended for food scientists and technologists interested in this important field.

Gordon G. Birch

Amphoteric Surfactants. Surfactant Science Series, Volume 12. Edited by Bernard R. Bluestein and Clifford L. Hilton. Marcel Dekker, New York and Basle, 1982. 352 pp. Price: Sfr. 156.

This book is the latest in the surfactant science series, and it covers an area of importance to chemists in a wide range of industries including cosmetics, detergents and textiles. Chapters are presented on amphoteric imidazoline derivatives; surface active betaines; amino acid type amphoterics; lecithin and related phosphatides; macromolecules; miscellaneous polar surfactants; and the analysis and testing of amphoteric surfactants.

The book emphasises the structures and physico-chemical properties of surfactants, rather than their applications, which are mentioned briefly in each chapter. The interest of the food chemist is mainly represented in the chapter on 'Lecithin and Related Phosphatides', written by R. D. Cowell, D. R. Sullivan and B. F. Szuhaj. This chapter of 35 pages gives a useful, though brief, account of the structures and properties of this group of compounds. No attempt has been made to discuss in detail the applications of lecithin, and the effect of lecithin in foods is also not discussed in depth. The final chapter dealing with the analysis and testing of amphoteric surfactants is also of potential interest to food chemists but the approach is to present general methods of analysing non-ionic surfactants, rather than to detail procedures for specific surfactants.

There are few mistakes in the book, but the depth of coverage of the various surfactants suggests that food chemists will benefit to a considerably smaller extent than chemists in other industries from reading this book. The price is high for a book of this length.

M. H. Gordon

Handbook of Polycyclic Aromatic Hydrocarbons. Edited by Alf Bjorseth. Marcel Dekker, New York and Basle, 1983. 744 pp. Price: SFr. 332.

Recent years have seen much public anxiety over the pollution of our environment and food; in particular the widespread occurrence of carcinogens (e.g. polycyclic aromatic hydrocarbons (PAHs)) has lead to much concern. However, as the editor states in his preface, a prerequisite for any discussion on the effect of such compounds is the need for accurate analytical methods, which can be applied to all those areas where these compounds may be encountered. The analyst is faced here with two major problems: firstly the compounds are present at very low levels (p.p.b.) and secondly the matrix is usually very complex and will lead to