

Book Reviews

Deutsche Forschungsgemeinschaft (DFG) Manual of Pesticide Residue Analysis, Vol. 1. Edited by H-P. Thier and H. Zeumer. VCH Verlagsgesellschaft, Weinheim, Germany, 1987. 433 pp. ISBN 0-89573-592-X. Price: DM 128.

Last year, in the absence of a pesticide analysis manual locally, Interlibrary loans sent a famous analysis manual. It comprised a series of loose leaf sheets housed in a couple of crumbling box files which were afforded protection worthy of the Book of Kells by the librarian. A weary researcher complained, 'Why doesn't someone produce a bound, modern version appropriate to a laboratory bookshelf?'

Well, they have. This excellent volume published by VCH consists of methods edited by the Working Group on Pesticide Residue Analysis of the German Pesticides Commission, excellently translated into English by J. Edwards. It is divided into four sections comprising: sample collection and preparation; cleanup procedures; specific methods for individual pesticides; and multiresidue analytical procedures.

The first section deals not only with the preparation of laboratory and analytic sub-samples but with collection of samples of soil, water and crop plants. There are also definitions of detection limits and advice as to how to report analytical results.

The cleanup section describes, in technical detail, the use of sweep co-distillation (organochlorine and organophosphorus insecticides; triazines in soil) and of gel permeation cleanup to crude plant extracts on Sephadex and on polystyrene gels. Another method deals with the removal of bulk lipid

from fat-rich samples using a suitable adsorbent (organochlorine and organophosphorus compounds).

The third section contains methods for analysing residues of 22 individual substances (later volumes are planned which will extend this list). The methods in this section have all been independently assessed by an impartial laboratory on several crops named at the beginning of each entry. The entry format includes an introduction summarizing the physicochemical characteristics of the substance, followed by an outline of the method listing the apparatus and reagents required. The extraction and cleanup procedures are considered in detail, with operating conditions for the gas chromatograph or other equipment used in the determination. Finally, each entry includes evaluation of results, calculations, useful notes and references. The entries are in alphabetical order.

The section on multiresidue analysis contains 17 entries which cover methods for, *inter alia*, urea and triazine herbicides, organochlorine and organophosphorus insecticides, dithiocarbamate and phthalimide fungicides and bromine-containing fumigants. Each method names crops independently tested by that method and indicates, just below the title, the techniques of cleanup and analysis incorporated in the method.

This first volume, of a work eventually comprising two or three volumes, is clearly not comprehensive in that major pesticides, such as pyrethroids, phenoxyalkanoic acids and several groups of systemic fungicides are not covered by it. Nevertheless, this clearly written and well-produced book is likely to become a valued laboratory manual for the analyst concerned with pesticide residues in food, soil or water.

K. A. Hassall

Developments in Food Microbiology—3. Edited by R. K. Robinson. Elsevier Applied Science Publishers (London and New York), 1988. x + 198 pp. ISBN 1-85166-131-X. Price: £34.00.

This is the third book in a series concerned mainly with general aspects of food microbiology, and which consists of seven chapters by experts, 198 pages with 21 tables and 14 illustrations; it contains 590 references. The book covers a wide range of topics in food microbiology including beer, fermented vegetables, food-borne fungi, water supply, tissue culture, economics of fermentation and cellulosic technology which complements the other topics that have been dealt with in the previous two volumes.

Beer is covered by D. R. Lawrence, and this chapter deals adequately with