
Book Reviews

Gunther, F.A., Davies Gunther, J. (eds.): *Residue Reviews*. Vol. 73, residues of pesticides and other contaminants in the total environment. Berlin, Heidelberg, New York: Springer 1980. IX, 130 pp., 35 figs., 21 tabs. Hard bound DM 44,-.

The majority of the contributions compiled in Vol. 73 of 'Residue Reviews' are dedicated to special aspects of pesticide residue science in different countries. Regulatory and research approaches to current pesticide residue problems in Florida (USA) are reported by C.H. van Middelen. This article contains the following topics: Laboratory and statutory authority, sampling program, regulatory action, current residue problems, quality assurance and methods development, inter-agency annual review, crop selection based on residue potential, factors considered in sample selection, methods for analysis of carbamate pesticides, extraction efficiencies for pesticide removal and bound-residue removal. Pesticide residues and pertinent regulations intended for developing countries are reviewed by E.D. Magellona. He presents the controls being followed by the Pesticide Residue Laboratory of the University of the Philippines at Los Banos. The advantages of the semi-micro TLC methods, especially with regard to the cost per analysis, are given. H. Frehse and G. Timme discuss the mathematical principles of residue analysis in their paper: 'Quantitative residue analytical reliability: beatitude through application of latitude'. The performance of analytical methods and the establishment of maximum residue limits are given in detail. R.A. Conkin gives a short survey of the development of pesticide residue analysis at the submicrogram level: 'From one to point zero one part per million: the first 25 years'.

The judgment aspect of residue, contamination or pollution, is briefly discussed by C.L. Dunn.

Cytological and biochemical effects of pesticides on microorganisms are reviewed by R. Lal and D.M. Saxena. The following compounds are discussed in detail: herbicides (diuron and related herbicides, picloram, trifluralin, diquat and paraquat, IPC and CIPC, 2,4-D, triazines, amitrole); fungicides (HgCl₂, CuSO₄, dithiocarbamates, benomyl and MBC and other benzimidazole

fungicides, chlortalonil, captan, dodine, dichlone, 3-PI, SBA, triarimol, fluo- and clotrimazol); insecticides (organochlorines and organophosphates are reported in detail). Some papers on PCB's are reported also. An introduction to the metabolism of pyrethroids is given by J. Chambers. Generalizations about degradation rates being related to special moieties of pyrethroids are made, and special routes of metabolic breakdown in chemical and biological media are reviewed for pyrethrins and allethrin, tetramethrin (phthaltrin), resmethrin, phenothrin, permethrin, and decamethrin.

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Fiechter, A. (ed): *Advances in Biochemical Engineering*. Vol. 16, Plant Cell Cultures 1. Berlin, Heidelberg, New York: Springer 1980. IX, 148 pp., 82 figs., 21 tabs. Hard bound DM 72,-.

The aim of this series, 'Advances in Biochemical Engineering' is 'to uncover the characteristic features of Biochemical Engineering and to report on current developments observed in the application of basic knowledge to this discipline'. Volumes 16 and 18 of the series include review articles devoted to discussing plant cell cultures. The recently published volume 16 consists of five papers: 'Continuous culture of plant cells using the chemostat principle' (G. Wilson), 'Embryogenesis in citrus tissue cultures' (P. Spiegel-Roy; J. Kochba), 'Biotransformation by plant cell cultures' (E. Reinhard, A.W. Alfermann), 'Metabolism of steroids in plant tissue cultures' (S.J. Stohs), and 'Biochemistry of lipids in plant cell cultures' (S. S. Radwan, H.K. Mangold). All these authors are well-known specialists in their respective fields. Although most of these topics have been reviewed repeatedly from 1976-1978, recent progress in research with plant cell cultures makes this up-to-date publication necessary. All the papers are very informative and comprehensive, and those of G. Wilson and E. Reinhard & A.W. Alfermann are of a broad interest. The quality of book corresponds to the usual high standards of Springer. Research scientists, advanced students and teachers will be delighted with this information.

Y. Gleba, Kiev