

Book Reviews

PESTICIDE EFFECTS ON SOIL MICROFLORA. Edited by L. SOMERVILLE and M. P. GREAVES. London: Taylor and Francis, 1987. Price £35.00.

Pesticides are biologically active compounds and must therefore be expected to offer some potential risk, however small, to man and his environment. Most governments exercise control over the supply and use of pesticides through a registration procedure which is essentially predictive. Registration implies the acceptance by a competent authority of evidence submitted in support of a company's claims for the safety and efficacy of the proposed pesticide product and its use.

Over about 30 years, scientists in governments and industry have developed an extensive programme of testing in plants and experimental animals. Data from this programme are extrapolated with reasonable confidence to predict the effects of a pesticide on man and his animals. Unfortunately the "state of the art" in test procedures which can produce data relevant to predicting some environmental effects has not progressed nearly as well. By comparison with the above, guidance on reliable test procedures to estimate the effects of pesticides on soil micro-organisms is almost non-existent, anywhere in the world.

The work described in this book is an attempt to improve the situation. Groups of interested scientists have met and corresponded since 1978 to assess the current meagre guidelines, and to develop recommendations for appropriate test procedures for assessing the effects of pesticides on soil microflora. Official registration scientists, however, were not involved.

The task has clearly been an uphill struggle. Chapter 15 starts by admitting that one of the most important functions of the international workshops has been to identify the limitations of current methods. Many of these limitations have been known for some time and although Annex B uses paragraphs from the FAO Consultation on Environmental Criteria for the Registration of Pesticides, Rome, May 1981, there is no reference anywhere in the book to this basic document on the general requirements for environmental criteria for the registration of pesticides.

The main reason for slow progress is identified in a sentence in Chapter 14 (and misquoted with a wrong reference two pages later)—"There is inadequate knowledge of what a soil ecosystem is and which processes and organisms are of major importance in maintaining soil quality". Natural variability in soil microbial activity is inevitable, and many environmental factors may influence micro organism populations and their activity.

Even if reliable and reproducible methodology is developed, the extrapolation of laboratory studies to the field is unproven, and the ecological significance of any predicted local effect is unknown.

Several chapters summarising experimental data are useful in defining the present state of knowledge but contribute little to identifying new methodology which may be of value to registration authorities. The recommended laboratory tests in Appendix B have already been published separately and made widely available to interested parties.

The transposition of Figures 1 and 2 in the first chapter get the reader off to a somewhat poor start, but the text in general is easy to read, regularly emphasising how little we really do know about soil ecosystems. The reviewer can only fully support the final inevitable recommendation that "more research is essential". But there must be some doubt as to whether a £35.00 book is needed to get this message across.

J. A. R. BATES

ICUMSA PROCEEDINGS 19TH SESSION CANNES 1986. Peterborough: ICUMSA, 1987. Hardback. Price £28.00. 466 pp. + index. ISBN: 0 905003 11 X.

This is the latest in the series of ICUMSA proceedings and covers the meeting of 117 delegates from 28 major sugar-producing countries at Cannes in 1986.

ICUMSA, the International Commission for Uniform Methods of Sugar Analysis addresses itself to the unified approach to sugar analysis and plays a vital role in the drawing up of methodology for use by the trade. There are close links with IUPAC, the AOAC and the APA, and although its purpose is not to formulate statutory methods, it plays a significant part in that work.

This book is best described as a full and frank account of the meetings and it includes not only details of methodology but a verbatim report of all of the discussions. For this reason it does not lend itself to routine laboratory use, since the reader would have difficulty extracting the relevant information quickly. Having said this, however, the series does enable the reader to learn of the latest practices in the sugar trade and to discover the trade's thoughts on analytical matters from simple polarimetry to the more esoteric qualities of sugar and sugar products.

The book deals with 31 subjects in 466 pages, and contains much statistical information on the performance of nearly all well used analytical methods. Some useful comparisons of methods are also included, as are details of microbiological tests for sugar.

The book is welcome in the reviewer's library, but should be read in conjunction with the ICUMSA Sugar Analysis Book (1979) which is more useful to a practising analyst.

Close involvement with ICUMSA does not colour the reviewer's judgement of this series—he only wishes he had been at Cannes last summer!

C. J. SHELTON