

## BOOK REVIEWS

**Inorganic Nitrogen Metabolism:** edited by W. R. ULLRICH, P. J. APARICIO; P. J. SYRETT and F. CASTILLO, 1987 Springer, Berlin, Hard cover DM148

This volume represents the proceedings of a European 'Advanced Workshop' on inorganic nitrogen metabolism held in the Spring of 1986 in the University of Extremadura, Spain, and organized by the Federation of European Societies of Plant Physiology. Having surveyed the list of contents and read some of the chapters I had begun to draft an opening paragraph for this review when I came across the editors' forward. In it they summarize with remarkable frankness the main weaknesses of this volume.

Thus we are told that the meeting was widened in scope from its original aim of covering the inorganic nitrogen metabolism of blue-green and eukaryotic algae to include "some coverage" of nitrogen fixing bacteria, and "to some extent" the biochemistry and physiology of fungi and higher plants. Again "The editors decided not to interfere with the texts of the authors", i.e. there has been no attempt at integration of the 52 contributions. Finally we are warned specifically "Not to expect a text book or monograph" and that "Even if a complete picture . . . is missing, one can find many new and so-far unpublished data in this book" Well! you can't be given fairer warning, I suppose

One sympathises with the desire of organizers of conferences, workshops and symposia to produce a permanent (and perhaps profitable) record of the events in question, but in this case (not for the first time) one is left wondering. It would be wrong to say that the volume does not contain some interesting observations, but most

of these are, I'm afraid, no longer "New and so-far unpublished", by now most have appeared in refereed journals, usually in substantially fuller form than here. Indeed, one of the luxuries often afforded to contributors to volumes such as this, the chance to include speculative or controversial material, is here denied: rather the opposite, with many of the contributions reduced to below the minimum worthwhile space. For example, Stewart and his colleagues are allotted six pages to survey 'Comparative Aspects of Inorganic Nitrogen Metabolism in Plants', the only paper on this subject in the volume. But he is lucky; the average allocation to each of the 52 contributors is a little over four sides. Within this space authors were asked to "Present recent results from their laboratories in the context of a survey of background knowledge". Some hope! In fact what we are offered is little more than an over-elaborate book of abstracts.

A depressing volume then: time and again, after reading interesting titles of contributions by well-respected workers, turning to the articles led to frustration and disappointment, followed by a search in the library for the real thing. For the record, the contributions fall under four main headings, 'Basic Aspects' (2 contributions); 'Uptake and Metabolism of Inorganic Nitrogen' (3 contributions on eukaryotes, 3 on prokaryotes); 'Enzymes of Nitrogen Metabolism' (nitrate reductase, 8; nitrite reductase, 3, ammonium metabolism, 6; nitrogenase, 8; others, 7), and 'Regulation of Nitrogen Utilization and Special Topics' (Algae and cyanobacteria, 5, Higher Plants, 7).

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**Plant Pathogenic Bacteria:** edited by E. L. CIVEROLO, A. COLLMER, R. E. DAVIS and A. G. GILLASPIE, Martinus Nijhoff, Dordrecht, Netherlands. 1987, 1050 pp. £140

Fortunately, it is no longer de rigueur to publish the proceedings of every international symposium that takes place. Which is just as well, since we might well be landed with many more volumes like the one under review. It weighs 4 1/2 pounds, runs to over 1000 pages and contains over 230 contributions. These vary from symposium papers, which may be up to 10 pages long, to discussion papers (2-3 pages) and short contributions (1/2-1 page). It represents the proceedings of the VIth International Conference on Plant Pathogenic Bacteria held at College Park, Maryland in May 1985 and in spite of camera-ready copy, it has taken nearly two years to reach the book stalls.

There is of course much of interest in these proceedings. Special sessions were focussed upon *Agrobacterium*, *Erwinia*, *Pseudomonas* and fastidious prokaryotes. The papers are clustered together in the proceedings under these and other headings. The contributions are either short research papers or research abstracts so that it is difficult for the interested reader to be able to draw any clear conclusions about the current state of the art on these fashionable areas of research. Perhaps the committed plant bacteriologist will benefit from this enormous, indigestible pot-pourri of information, but there is little here for the general reader.

At the XIVth International Botanical Congress held recently in Berlin, the problem of published proceedings was simply solved by only having a book of abstracts, issued by the Organising Committee for use during the Conference. This is perhaps too drastic a solution. One

may turn to an excellent middle-way adopted by the international gathering of plant physiologists. They publish each time they meet a relatively short volume containing only review articles, summarising the progress of the previous four years. This is something plant bacteriolo-

gists and plant pathologists should seriously consider next time they meet on an international basis

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## SHORT BOOK REVIEWS

**Hungarian-USA Binational Symposium on Photosynthesis:** edited and published by MARTIN GIBBS, Brandeis University, Waltham, MA 02254, 1987 163 pp

This little book records the results of a multi-disciplinary project in photosynthesis which has been carried out jointly by US and Hungarian plant scientists since 1983. The 20 papers in this book derive from a joint symposium held in August 1986 in Newport, Rhode Island. They variously cover energy transfer, electron transport, carbon and hydrogen metabolism and induction of photosynthesis. Thus it deals with a broad spectrum of recent photosynthetic research and provides the interested reader with a convenient update of some of the latest findings. These are four related papers, for example, on the regulatory role of fructose 2,6-bisphosphate in carbohydrate metabolism and Weinstein *et al.* describe the RNA requirement in the biosynthesis of  $\delta$ -aminolaevulinic acid from glutamate.

**Biotechnology Information '86:** edited by R. WAKEFIELD, IRL Press, Oxford, 1987 270 pp £32.00

Based on a conference held at Sussex University in September 1986, this paperback ranges in subject matter from the use of protein finger printing for microbial identification to a consideration of public awareness of biotechnology. In between there is much useful information on databanks for protein sequences and hybridomas, on the deposit of microorganisms for patent purposes and on a database of biotechnology business information. There is much of general interest in these pages, and clearly anyone directly involved in plant biotechnology will need to consult it. Unfortunately the publishers were not able to persuade the contributors to stick to the same format and type size for their camera-ready copy, so that it is a decidedly inelegant production.

**Pollen: Cytology and Development:** edited by K. L. GILES and J. PRAKASH, International Review of Cytology, Vol. 107, Academic Press, Orlando, 1987 455 pp \$69.50

Relatively little biochemistry has been carried out so far on plant pollen, presumably because of the difficulty of collecting sufficient for meaningful analyses. What little that is known is described *inter alia* in this special volume, devoted to more biological aspects. At last, the glycoproteins of the self-incompatibility systems are being investigated, as discussed here by T. Gaude and C. Dumas. Pollen also has promise for the transfer of genetic information. For example pollen of white flowering *Petunia* mutants treated with wild-type DNA have given rise to anthocyanin containing flowers. Dieter Hess here describes the techniques needed to bring about such transformations. Pollen biochemistry is an area of great fascination and practical importance and anyone wishing to enter the field will find the necessary stimulation in the different chapters of this review.

**Les Modèles Moléculaires des Biomembranes:** by PAUL MAZLIAK, Hermann, Paris, 1987. 135 pp 160 francs.

This neat little volume describes the various models that have been put forward for the arrangement of lipids and proteins in membranes to explain the way that the membrane functions in the living cell. It is well illustrated with appropriate diagrams, has a glossary and a brief bibliography.

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