



BOOK REVIEWS

Nitrogen Fixation: Fundamentals and Applications: edited by I. A. TIKHONOVICH, N. A. PROVOROV, V. I. ROMANOV and W. E. NEWTON, in the *Current Plant Science and Biotechnology in Agriculture* series, Vol. 27, Kluwer Academic Publishers, Dordrecht, 1995. 822 pp., £169.00. ISBN 0-7923-3707-7.

The books contain the proceedings of the 10th International Congress on Nitrogen Fixation, that took place in St Petersburg, Russia, 28th May–3rd June, 1995. The publishers should be congratulated upon producing a high-quality volume in such a short time. The chapters have been prepared from camera-ready copy and I suspect have not been subjected to extensive editorial correction.

The first 10 chapters are synopses of the overview lectures, which vary from 6 to 12 pages in length. Of particular interest are chapters by B. E. Smith (The Structures of the Nitrogenase Proteins), R. Haselkorn (Molecular Genetics of Nitrogen Fixation in Photosynthetic Prokaryotes), B. J. J. Lugtenberg *et al.* (Signals Involved in Nodulation and Nitrogen Fixation), G. Guan *et al.* (Nodulation in Legumes and Actinorhizal Plants), J. G. Streeter (Integration of Plant and Bacterial Metabolism in Nitrogen-Fixing Systems) and C. P. Vance & P. H. Graham (Nitrogen Fixation in Agriculture: Application and Perspectives).

The remainder of the book is divided into a further

eight sections: Chemistry and Biochemistry of Nitrogenases; Regulation of Nitrogen Fixation; Signalling Processes in Plant–Microbe Interactions; Symbiotically Essential Bacterial Genes and Dynamics of the *Rhizobium* Genome; Plant Responses in Symbiosis; Energetics of Nitrogen-Fixing Systems, Integration of Carbon, Nitrogen and Oxygen Metabolism; Ecology and Agricultural Applications of Nitrogen-Fixing systems; Round Table Discussions of Urgent Issues. Each section contains approximately 10, six-page articles and a large number of one-page abstracts of the poster presentations, the quality of which is variable. One major difficulty with a volume of this size, is that there is no subject index. It is therefore necessary to read through each poster abstract.

There is little doubt that this volume contains a vast amount of information and that it represents a record of the total international knowledge of nitrogen fixation in June 1995. As such, I would have thought that it was an essential acquisition for all libraries in institutions with an interest in plants, symbiotic bacteria and agriculture. However, I am not convinced that at the price, many individuals would wish to purchase the volume for their own bookshelf.

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Modern Fungicides and Antifungal Compounds: edited by H. LYR, P. E. RUSSELL and H. D. SISLER, Intercept, Andover, 1996. 588 pp., £75.00. ISBN 1-898298-32-7.

Symposia volumes come in all shapes and sizes, many nowadays with attractive illustrated coloured jackets which display something of the contents within. This one has a forbidding deep blue hard cover with only the title as a guide to what it contains. Perhaps the publishers, who are new to me, decided that this volume is inevitably destined only for the library shelf, which is a pity, since the contents have much to offer. Surely, all scientists working in the area of biochemical plant pathology will want to read some parts of this book.

As with many Symposia published today, this one has too many short papers and would have benefitted by selection and expansion of some of the better

contributions. The book opens with three general articles on the current status of fungicide science. There follows 68 papers divided into five sections dealing with the biochemical effects of fungicides, the physiology of the infection process and the plant response, new developments in fungicide use, advances in fungicide resistance research and induced resistance to plant disease. I noted especially that much of the recent research on plant disease resistance mechanisms is discussed here. There are papers, for example, on plant antifungal proteins as novel crop protection agents, on systemic acquired resistance in several crops and on the salicylic acid signal for the activation of plant resistance. While primarily intended for pesticide scientists, the volume deserves the attention of any plant scientist interested in antifungal agents in plants.

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