

## BOOK REVIEWS

**Physiology and Biochemistry of Auxins in Plants:** edited by M. KUTACEK, R. S. BANDURSKI and J. KREKULE, SPB Academic Publishing, The Hague, 1988, 428 pp. \$105.00.

This volume contains the proceedings from a symposium held September 28 through October 2, 1987 at the lovely baroque Liblice chateau (now the Mansion of the Research Workers of the Czechoslovak Academy of Science). These relatively small, highly specialized symposia have attracted praise from attendees both for the beauty of the location as well as the excellent planning of the symposia. The volume resulting from these proceedings offers few surprises, but does serve as an interesting window on auxin research. Here, in one volume, students and professionals can easily discern the high and the points in the broad areas of research linked to the phytohormone auxin. Areas of rapid progress are described side-by-side with areas either still dormant or areas for which the excitement has recently passed.

The volume is divided into five sections beginning with the conference *Plenary Lectures*. The first chapter is an interesting historical look, by Professor Thimann, at the accumulated knowledge on auxins. Biohistorians will find this account to be more enlightening than some longer and more complete accounts primarily because of what it says about Professor Thimann and his interactions with others working during the first half of the century. The rest of the volume is taken up by longer papers that summarize the work from several major laboratories, and smaller papers describing more directed investigations of individual problems. Most of the longer chapters are similar to those published elsewhere by the authors, but it is useful to have them collected in one volume.

One of the difficulties of organizing such a volume is the problems of collecting the manuscripts. Participants are often required to arrive with their chapter in hand. This in some ways defeats the purpose of using the conference to expand the published perspectives of the guest speakers. For example, major chapters by R. E. Cleland and by A. Theologis point out significant differences in points of view that could have been sorted out during such a conference. Their respective chapters serve as an interesting contrast, but with few issues resolvable from the data discussed. That is not to say the chapters are not good, they are both quite excellent, but I am left with the feeling that more interaction between these two points of view would be good. It is disappointing that they could not enlighten us with a consensus view or at least suggest how to resolve the apparent conflict between the biophysical and molecular biological views of auxin action.

This volume is taken from camera-ready typescripts, and the quality of the originals is highly variable. For a volume as expensive as this, one could rightly expect a higher quality original and publication on a higher quality paper stock. The photographic work is of particularly poor quality. This work is of limited scope and as such will be used primarily as a reference source or as a supplement to a graduate course on plant hormones. I find it useful as an introduction to the breadth of the auxin field and will give it to students and post-doctorals to read when they first begin to work in my laboratory.

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**Biochemistry of Photosynthesis:** R. P. F. GREGORY, John Wiley & Sons, Chichester 1989. 257 + xxi pp. £21.95.

This book arrived at a most opportune time for me, about a week before I had planned to embark on an update of my lecture course on photosynthesis. As a biochemist whose research fringes into, rather than centres on, photosynthesis but who nevertheless is responsible for lecturing on that topic, I regard as a godsend, a good, up-to-date, account of the process in its entirety.

In the past I have used the first and second editions, so I did not expect to be disappointed in this book. Nor was I. I was, however, immediately struck by the reorganization that has taken place in the third edition. This, of course, reflects the great changes that have occurred in our understanding of photosynthesis during the last twelve years. For example, the molecular organization of photo-

synthesis within membranes is emphasized and we also see, as in so many other areas, the impact being made by recombinant DNA technology. As the author himself states, it is regrettable that the inclusion of new material should have occurred at the expense of the deletion of the earlier work in the subject, but this is unavoidable and does not adversely affect the balance of the book.

The book opens with three chapters on structure and function, the pigments and an overview of the photosynthetic light reactions, the latter particularly useful as it points out various unifying features of photosynthesis in different organisms. Then follow four chapters covering details of the photochemical reactions in photosynthetic bacteria and green plants, after which the book moves on to photosynthetic carbon metabolism (four chapters). The chapter on the Calvin cycle, its regulation and its integration with the light reactions of photosynthesis is