

Phytochemistry, 1976, Vol. 15, p. 1191. Pergamon Press. Printed in England.

Environmental and Biological Control of Photosynthesis: by R. MARCELLE (ed.) 1975 VIII + 408 pp. Dutch Guilders 110.00.

Genetic Aspects of Photosynthesis: by YU. S. NASYROV and Z. SESTÁK (eds.) 1975 XIX + 384 pp. Dutch Guilders 110.00.

Photosynthesis Bibliography Vol. 1, part 2 (1966/1970. References 5621-9087/NAH-ZWE) 1974; and **Vol. II** (1971 References 9088-12069): by Z. SESTÁK and J. CATSKY (eds.) 1975 both at Dutch Guilders 80.

All published by Dr. W. Junk, N. V. Publishers, The Hague, in paperback form.

The first two volumes listed above are proceedings arising from restricted conferences in which invited participants discussed the specific aspects of photosynthesis indicated by the titles. Although English, which is used throughout in both volumes, is not the native language of the editors, this does not appear to have created many problems, although misuse of words and odd sentence constructions do occur. The real deficiencies of both volumes are those which appear inherent in almost all such proceedings, resulting in part from the variable standard of contributions which have not been refereed, and in part from the fact that much of the data and ideas are available elsewhere. At a lower cost these objections should not deter anyone, who is actively engaged in related research, from purchasing copies as they both contain much valuable information. But at current exchange rates the price will put them out of reach for most individuals.

The proceedings of the first listed conference held at the 'Limburgs Universitair Centrum' in August 1974 start well with an Inaugural Address by O. Bjorkman, and ends with an interesting final section of eleven papers which comprised a special session on crassulacean acid metabolism. Of the rest, many papers report results of photosynthetic measurements made under various experimental or environmental conditions without really relating to control. The limitations of such work is apparent to many of the authors whose concluding paragraphs contain phrases such as: "nothing can really be stated; more experiments are needed; the responses will depend on temperature; the need for experiments to check this fundamental assumption is clear and these data support the suggestion that stem elongation and flower formation are different processes". In the general assessment I. Zelitch opts out of the difficult task of discussing the varied contributions preferring to present his (then) current views on photorespiration—concluding that both inhibitors of photorespiration and the search for low-photorespiration mutants represent promising lines of

research which could lead to increased productivity. These views conflict with observations of a previous speaker (W. L. Ogren) who reported that no useful chemicals had yet been found and that screening of hundreds of thousands of plants had failed to indicate any such chance of success.

The proceedings of the second conference, held in Dushanbe, U.S.S.R. in 1972, are essentially similar in form. The published contributions were selected to include "the most important and interesting papers from Soviet participants and almost all papers from the foreign guests". The several sections include discussions of: The genome and origin of chloroplasts; genetic control of biosynthesis; genetic control of CO₂ assimilation; nature of photosynthesis; genetic basis of optimization of photosynthesis plus concluding remarks. In this volume the final summary does attempt to comment on the various contributions; however, the depth of discussion is limited by the space available. Although considerable time has elapsed since the conference was held, this volume is of greater interest since it gives an insight into photosynthesis research in the U.S.S.R., much of which may be overlooked or is not easily accessible to Western scientists.

When the first volume of the *Photosynthesis Bibliography* appeared I suggested (*Phytochemistry* 14, 1469, 1975) that its ultimate value would depend on the quality of the indices, not then available. I regret to report that those in the first volume appear totally inadequate; for instance the entry "algae" is followed by a close typed list of about 1500 entries, and the entry "photosynthesis and chlorophyll" with a list of about one thousand entries. Obviously, these limitations are realized by the Editors since an attempt to split these large groups is made in the next volume with algae, for instance, split on the basis of pigmentation. So far up to 1971, the Bibliography lists over 12000 entries. Even now it is as quick to scan the pages as to consult the indices; by the time the present day is reached the task of locating a specific paper by subject matter will be formidable unless these are improved.

If these books were less costly I would recommend the symposia volumes to anyone active in a related research field. However, I question the validity of publishing material, much of which is available elsewhere, in the form of small paper back volumes, at these prices. As far as the bibliography is concerned, it would be a useful addition to the library of any institution with an active photosynthetic group.

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